DOCUMENT RESUME

ED 116 451 FL 007 110

AUTHOR	Tabaian, Hessam
TITLE	Conjunction, Relativization, and Complementation in Persian. Colorado Research in Linguistics, No. 5.
INSTITUTION	Colorado Univ., Boulder. Dept. of Linguistics.
PUB DATE	May 75
NOTE	187p.
AVAILABLE FROM	Colorado Research in Linguistics (CRIL), Department of Linguistics, University of Colorado, Woodbury Hall, Boulder, Colorado 80302 ($2.50)
EDRS PRICE	MF-$0.76 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS	Descriptive Linguistics; Form Classes (Languages); Indo European Languages; Language Research; Linguistic Theory; Morphology (Languages); *Persian; *Semantics; *Sentence Structure; *Syntax; *Transformation Generative Grammar; Verbs

ABSTRACT

This study is concerned with the description of compound sentences, relative clauses, and complement clauses in Standard Persian within a generative-transformational grammar. Compound sentences are divided into conjunctive, disjunctive, and adversative types on the basis of the semantic relations they express. A conjunctive clause is either non-emphatic or emphatic, a disjunctive clause is either alternative or ultimative, and an adversative clause is either contrastive (oppositive) or exceptional. Relative clauses are divided into attributive (restrictive) and appositive (non-restrictive) relative clauses with the conclusion that an attributive relative clause modifies an antecedent which has a multiple referent [-unique], while an appositive relative clause modifies an antecedent which has a unique referent [+unique]. Both relative clauses result from the reduction of a non-emphatic conjunctive compound with a coreferential noun. Ezafe constructions (Adjectival and genitive) are shown to be formed by the reduction of a non-emphatic conjunctive compound with a coreferential noun in which the second clause contains the verbs "budan" ("be"), or "dastan" ("have"). The complement clauses are analyzed as sentences that serve as an argument (supplement) to a specific class of impersonal, intransitive, and transitive verbs. (Author)
intransitive, and transitive verbs. (Author)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED116451

CONJUNCTION, RELATIVIZATION, AND COMPLEMENTATION
IN PERSIAN

PERMISSION TO REPRODUCE THIS COPYRIGHTED MATERIAL BY MICROFICHE ONLY HAS BEEN GRANTED BY
Hessam Tabaian
TO ERIC AND ORGANIZATIONS OPERATING UNDER AGREEMENTS WITH THE NATIONAL INSTITUTE OF EDUCATION FURTHER REPRODUCTION OUTSIDE THE ERIC SYSTEM REQUIRES PERMISSION OF THE COPYRIGHT OWNER

Copyright Hessam Tabaian 1975

Hessam Tabaian

University of Colorado

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

ABSTRACT

This study is concerned with the description of compound sentences, relative clauses, and complement clauses in Standard Persian within a generative-transformational grammar. The descriptive procedure employed involves: (a) the presentation of surface structures of these constructions by means of a selected set of data, (b) the determination of their deep structures on the basis of the data, and (c) the postulation of the transformations necessary to relate the deep structures to surface sentences.

This work consists of an introduction, four chapters, two appendices, and a bibliography.

The introduction locates the sentences under investigation within the overall pattern of complex sentences in the syntax of Persian and provides a review of the major approaches to this group of complex sentences.

Chapter One deals with the compound sentences and divides them into conjunctive, disjunctive, and adversative types on the basis of the semantic relations they express. It further examines the number and type of constituents which can occur as the members of coordination in compound sentences and the distribution of the coordinators in these sentences.

Chapter Two defines a relative clause as a structure which results from the contraction of two non-emphatic conjunctive sentences with a coreferential noun. The relative clauses are either

FL007110

attributive (restrictive), if the leftmost coreferential noun (antecedent) has a multiple referent [-unique], or appositive (non-restrictive), if the antecedent has a single referent [+unique]. If the antecedent is [-unique] and [+definite] relativization is obligatory, but if the antecedent is both [-unique] and [-definite] relativization is optional.

Chapter Three reviews the classification of ezafe constructions (adjectival and genitive), elucidates the various semantic relations which they express, differentiates three major classes of ezafe constructions, and concludes that ezafe of qualification and ezafe of possession result from the contraction of two coordinated clauses in which the second clause contains either the copula budän 'be' or the verb daštän 'have', respectively. It further finds that the ezafe particle e is in complementary distribution with the relative particle i. If an NP node dominates a noun and any other constituent except S the ezafe particle e is introduced after the noun. If an NP node dominates a noun and a sentence the relative particle i is added after the noun.

Chapter Four analyzes complement clauses as sentences that serve as an argument (supplement) to a specific class of impersonal, intransitive, and transitive verbs. It rejects the hypothesis that complement clauses at some pre-transformational level are embedded in subject and object noun phrases. It further explores the types of complement clauses, the syntactic constraints that govern them, and the mood and tense sequence between complement clauses and their matrix sentences.

Appendix I provides a list of the impersonal, intransitive, and transitive verbs which occur with a complement clause. Appendix II describes the phonemic system of Persian with an acoustic presentation of the vowels.

Aside from its primary objective of providing a systematic description of an unexplored area in the syntax of Persian, this study demonstrates the descriptive adequacy of the generative-transformational grammar in handling data from diverse languages, confirms the correctness of several assumptions about the deep structures of complex sentences, and attests to the crucial function of semantic (syntactic) features in a syntactic analysis.

TABLE OF CONTENTS

PAGE

INTRODUCTION. 1

1. Complex Sentences 1

2. Review of Literature. 7

3. Descriptive Procedures. 21

CHAPTER 1 COMPOUND SENTENCES 24

1.1 Types of Compound Sentences. 24

1.2 Binary, N-ary and Multiple Coordination. 28

1.3 Sentence and Phrase Conjunction. 30

1.4 Coordinators 34

1.5 Phrase Structure Rules 42

1.6 Transformations. 48

1.7 Derivation 61

CHAPTER 2 RELATIVE CLAUSES 68

2.1 Definition 68

2.2 Types of Relative Clauses. 70

2.3 The Deep Structure of the Relative Clause. 78

2.4 Transformations. 84

2.5 The Derivation of Attributive Relative Clauses 85

2.6 The Derivation of Appositive Relative Clauses. 98

CHAPTER 3 EZAFE. 106

3.1 Definition 106

3.2 Classification of Ezafe. 109

3.3 Analysis of Ezafe. 116

3.4 The Derivation of Ezafe. 123

3.5 Ezafe Chain. 128

PAGE

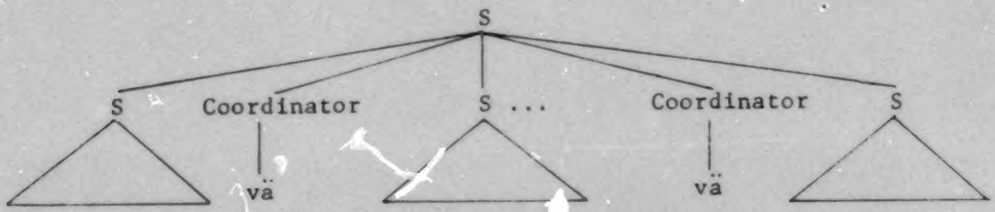
CHAPTER 4 COMPLEMENT CLAUSES. 133
4.1 Definition. 133
4.2 Types of Complement Construction. 141
4.3 Indicative and Subjunctive Complements. 143
4.4 The Tense and Aspect in Complement Clause 146
4.5 Transformations 149
4.6 Derivation. 151
CONCLUSIONS. 158
BIBLIOGRAPHY 160
APPENDIX I 166
APPENDIX II. 175
LIST OF TRANSFORMATIONS. 182

INTRODUCTION

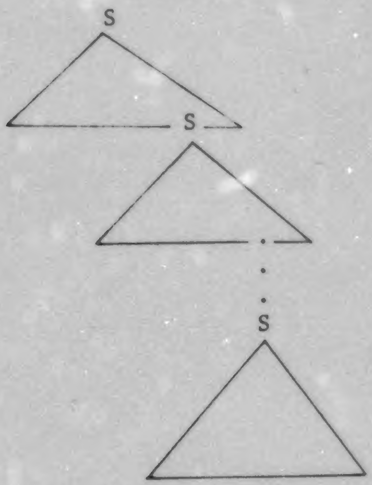
1. *Complex Sentences*

In Persian, as in other languages, simple sentences can be combined to form larger constructions. These constructions, which are collectively referred to as *complex sentences*, are formed by conjoining (coordination) or embedding (subordination). In complex sentences that are formed by conjoining, two or more simple sentences are strung together and none of the component sentences functions as a constituent of another. Grammarians usually refer to these sentences as *compound* or *coordinated constructions* and they call the component simple sentences *independent clauses*. In the complex sentences that are formed through embedding, one of the component simple sentences functions as a constituent of another simple sentence. These constructions are known as *subordinated sentences*, and the embedded sentences in these constructions are referred to as *dependent clauses*. The difference between conjoining and embedding, as well as the corresponding difference between coordinated and subordinated constructions, can be depicted in Figures 1 and 2 in which the internal structure of the constituent sentences is not specified. The dots in these two figures indicate that theoretically, the number of some conjoined and embedded sentences can be extended indefinitely.

1. conjoining



2. embedding



The formation of complex sentences is not restricted to either conjoining or embedding exclusively; a great variety of constructions in this language can be formed through the simultaneous use of these two syntactic principles. These types of constructions are traditionally known as *compound-complex sentences*.

The structure shown in Figure 1 illustrates the skeletal form of the compound sentences in which the coordinator *vä* 'and' links the component simple sentences together. But simple sentences can be joined by means of other connective morphemes as well. Persian has at least three different sets of coordinators for joining coordinated constructions. In describing coordinated constructions, the grammarians have often used these connective morphemes to identify the subtypes of compound sentences.[1]

---

[1] In most grammars on Persian compound or coordinated sentences have been divided into three distinct sub-types. Compound sentences which are combined with the connective morphemes *vä* 'and', the enclitic *o* 'and',*vä...häm* 'also, too, and', and the paired morpheme *häm...häm* 'both...and' are called conjunctive sentences. Those

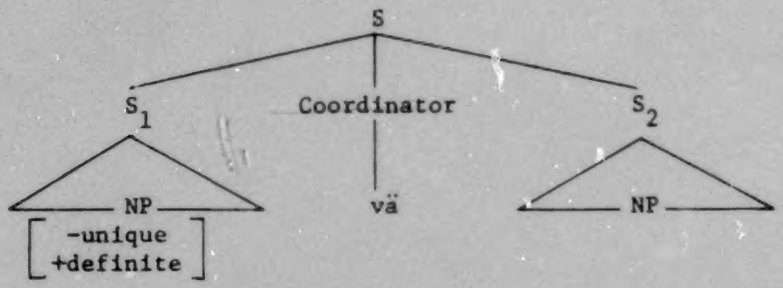
A distinct class of sentences, which is related to the conjoined sentences but traditionally included in the category of subordinated sentences, results from the structures that consist of two conjoined sentences with coreferential nouns. In these constructions, known as relative clauses, the second conjunct is usually incorporated into the initial coreferential noun (antecedent). Traditional grammars have distinguished two types of relative clauses according to the nature of their antecedent.

In one type of relative clause, called attributive (restrictive) relative clause, the antecedent does not refer to a particular person or thing. That is, the antecedent has no unique referent. The relative clause in these constructions is said to function as the modifier of its antecedent. An attributive clause can occur with either a definite or an indefinite antecedent. If the antecedent is a definite noun, the relative clause immediately follows the antecedent. But if the antecedent is an indefinite noun the relative clause is separated from its antecedent by the verb of the main sentence. Figures 3 and 4 represent the skeletal underlying form of an attributive relative clause with definite and indefinite antecedents respectively.

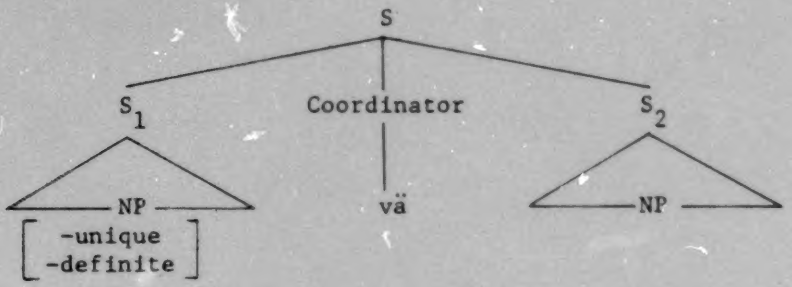
---

sentences which are conjoined with the morpheme ya 'or', the paired morphemes ya...ya 'either...or', nä...nä 'neither...nor', xah...xah 'whether...or', and ce...ce 'whether...or' are known as disjunctive sentences. And those constructions connected with ämma 'but' are known as adversative clauses.

3.


S
S1
Coordinator
S2
NP
vä
NP
-unique
+definite

4.

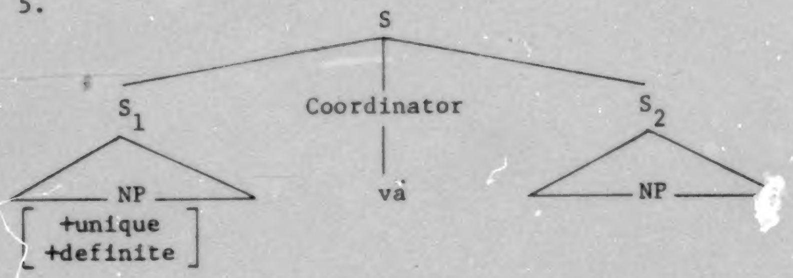

S
S1
Coordinator
S2
NP
vä
NP
-unique
-definite

In another type of relative construction, known as appositive relative clause, the antecedent does refer to a particular person or thing and therefore has a unique referent.[2] Although an appositive relative clause also directly follows its antecedent, it is always set apart from the rest of the sentence by a short pause and has the characteristic of an independent syntactic unit. The antecedent of an appositive relative clause is always a definite noun. Figure 5 presents the underlying form of an appositive relative construction.

---

[2] The distinction drawn between the antecedent of an attributive relative clause and the antecedent of an appositive relative clause is further strengthened by the observation that proper nouns, which have a unique referent, never occur with an attributive clause, while most plural pronouns with multiple referents (and particularly the third person plural pronoun) can occur with an attributive relative clause. For a detailed discussion of this subject see Stockwell et al. (1973: 448-456).

5.

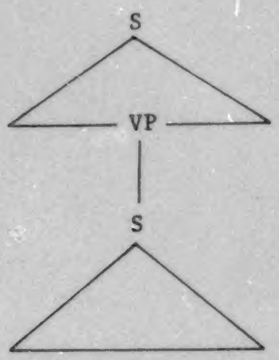


In the structures presented by Figures 3, 4, and 5, if the main verb in the second conjunct consists of either an adjective or a noun plus the verb budän 'be', or the verb daštän 'have', 'possess' plus a noun, these verbs are deleted and the remaining adjective or noun is linked to the antecedent by means of the enclitic particle e, which is added to the latter. The constructions that result from these modifications in the second conjunct bear the name of ezafe in Persian.

In subordinated constructions, a simple sentence (dependent clause) is usually embedded in one of the constituents of the main sentence. In the structure presented in Figure 2 the constituent that contains the dependent clause is not specified; but an examination of the surface subordinated sentences in this language indicates that the dependent clauses in these constructions might originate from two constituents of the principal sentence as follows.

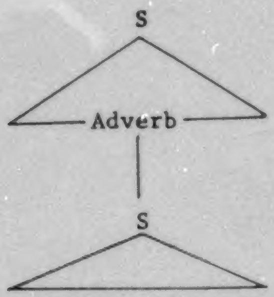
In one kind of subordinated constructions the dependent clause serves as an argument to either an impersonal, intransitive, or transitive verb in the main sentence. The dependent clause in these constructions is known as the completive clause. The underlying form of these constructions is presented in Figure 6 in which, for simplicity, the internal structure of other constituents is not filled in.

6.



The other kinds of subordinated constructions are derived from a structure in which the dependent clause originates from an adverb node in the main sentence.[3] Figure 7. presents the bare underlying form of these sentences.

7.



Among these subordinated sentences known as *adverbial constructions*, several sub-types of adverbial clauses are recognized according to their meaning. In each sub-type the adverbial clause is introduced by a specific subordinating morpheme.

The focus of this study will be to provide a description of three major types of complex sentences in Persian within a transformational framework. Chapter One describes the conjunctive, disjunctive, and adversative compound sentences. Chapter Two deals with the analysis of the attributive and appositive relative clauses. In Chapter Three the formation of ezafe constructions will be discussed. Finally, Chapter Four is concerned with the analysis of the complement clauses in Persian.

---

[3] The proposal for deriving this type of subordinated sentence from the adverb constituents is tentative and must not be taken for granted. The source of the so-called adverbial clauses is subject to controversy and as of now no satisfactory solution has been found.

Before we go further, it must be added that the postulation of the structures in Figures 1. to 7. as the sources of various complex sentences is motivated by the syntactic information provided by surface complex sentences in this language. This information will be included as we discuss details below. In addition to incorporating all the syntactic information the explanatory power of these structures can be regarded as a point in favor of this analysis.

2. Review of the Literature

The formation of coordinated, relative, and complement clauses is a controversial problem in generative-transformational grammar. Much of the controversy involved in the analysis of these structures has centered around the question of the interaction of the phrase structure and the transformational components of the grammar. In English, the only language in which coordinated and subordinated sentences have been subjected to a systematic study, several positions in regard to the possible configuration of the constituents in the deep structures of the complex sentences have emerged. A review of the highly detailed and elaborate works which deal with the formation of the English complex sentence is beyond the scope of this introduction. But a summary of the major positions, and particularly the criteria which have lead to the emergence of these positions, seems desirable. Since in this review we only concentrate on those aspects of complex sentence formation which have a direct bearing on the formation of the compound sentences, relative clauses, and complement clauses in Persian, several important arguments which pertain to English are not included. Most of the examples cited here are adopted from the works under review.

In dealing with the coordinated sentences, and specifically the conjuctive clauses in English, the transformational analyses have taken one of the three following directions.

One view, proposed by Lakoff and Peters (1968), claims that some coordinated constructions on the surface structure are derived from two or more independent simple sentences in the deep structure (sentence conjunction), while others, particularly those involving coordination among noun phrases in subject position, may be derived either from independent sentences or from conjoined noun phrases in deep structure (phrasal conjunction). This view, which has come to be knows as 'the conjunction movement hypothesis', is based on three observations.

(a) The distinction between sentence and phrasal conjunction correlates with the fact that a compound sentence, formed by means of sentence conjunction, as in example 1a, contains a conjunction of two assertions and entails a conjoined sentence.

1a. John and Mary are happy.

b. John is happy and Mary is happy.

But the coordinated sentences formed through phrasal conjunction contain a single assertion and do not entail a conjoined sentence.

2a. John and Mary are a happy couple.

b. *John is a happy couple and Mary is a happy couple.

(b) The distinction between sentence and phrasal conjunction provides a formal basis to explain the ambiguity of a compound sentence, as in example 3a, which may be derived either from 3b or from 3c.

3a. John and Mary are married.

b. John is married and Mary is married.

c. John and Mary are married (to one another).

(c) The postulation of a phrasal conjunction source for some subject noun phrases would provide a natural account for these properties of the symmetric predicates. It would allow one to derive the sentence with the transitive verb (4a) from the coordinated sentence with the intransitive verb (4b).

4a. Mary is similar to Susan.

b. Mary and Susan are similar.

It would reflect the logical relation between the verb and the noun phrases which occur in to-phrases (5a) and with-phrases (5b).

5a. Mary is similar to Susan.

b. John left with Mary.

It would explain the restriction on the occurrence of a reflexive pronoun after the with-phrase and the to-phrase.

6. *John left with himself.

A second view advanced by Dougherty (1970 and 1971) maintains that all surface coordinated constructions are introduced by the phrase structure rules of the grammar and that no surface coordinated conjunction is transformationally derived. This position, which is called the 'PSR Lexicalist hypothesis' is supported by these arguments.

(a) One semantic observation attributed to Wierzbicka is that surface coordinated noun phrases occurring in subject position constitute a single semantic unit to which the predicate refers as a whole.

(b) Another semantic observation shared by Wierzbicka and Dougherty is that the deep structure conjoined sentence, assumed to underlie a surface compound sentence, contains semantic information which is not present in the surface compound sentence. That is, sentence 7a is not a perfect paraphrase of sentence 7b.

7a. John and Mary left.

b. John left and Mary left.

(c) Coordinated noun phrases, like plurals, behave as a single syntactic unit in respect to agreement, pronominalization, reflexivization, reciprocal pronominalization, and quantifiers.

(d) There are a variety of coordinated constructions which not only receive a joint semantic and syntactic interpretation, but they cannot be even superficially reduced to simple conjoined sentences.

8. A, B, and C make a triangle.

Dougherty attempts to provide an explanation for both conjunctive and disjunctive clauses in English by associating the coordination schema with all major categories and differentiates these structures by introducing the 'distributional' features (syntactic features) [± totality], [± individual], [± disjunctive] and [+ negative]

A third view, known as 'derived conjunction' or 'the conjunction reduction hypothesis', maintains that all surface coordinated constructions are transformationally derived from deep structure conjoined sentences. According to this view, for every coordinated member in the surface structure there is a sentence in the deep structure. The derived conjunction hypothesis, originally proposed by Gleitman (1969) and extensively developed in Stockwell, et al. (1973:294-419), is based on the following observations.

(a) The ambiguity of many coordinated constructions cannot be attributed to the distinction between sentential and phrasal conjunction.

9a. John and Mary left (together).

b. John and Mary left (separately).

(b) The derivation of the transitive symmetric verbs from intransitive symmetric verbs does not always result in semantically equivalent sentences.

10a. John and Mary are in love.

b. John is in love with Mary.

(c) The difference between the deep structure and surface structure compound sentences is attributable to surface structure interpretation factors and does not pose a threat to this position.

(d) Sentence conjunction allows the derivation of the coordinated constructions where the coordinated members are made of different types of constituents.

11. The article is coherent and easy to read.

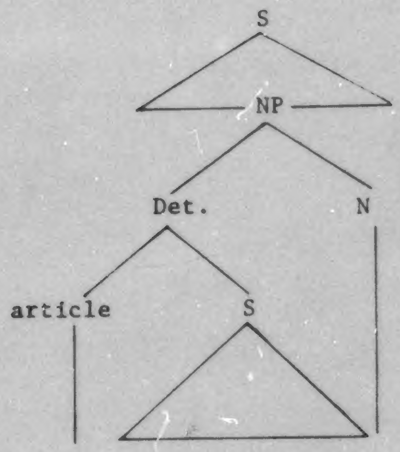
(e) It provides a simple and uniform description for conjunctive, disjunctive, and adversative clauses.

Of the three views presented above, the 'conjunct movement hypothesis' appears to provide a better frame for the description of coordinated sentences in Persian. The rationale for subscribing to this view is given in Chapter 1, pages 30-34.

As for the analysis of the relative clauses, again several proposals have been made. While there seems to be general agreement that appositive relative clauses are traceable to a conjoined sentence source, the attributive relative clauses are analyzed in varying manners.

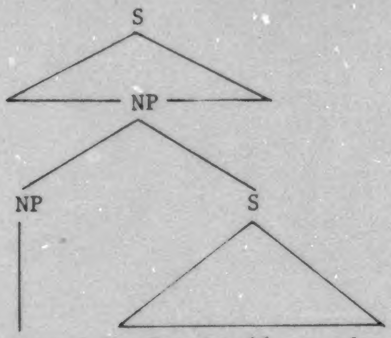
According to one view the attributive relative clause is a full sentence embedded in the determiner constituent of the antecedent noun phrase. This position, which is based on the observation that both the determiner and a relative clause delimit a noun phrase (art.-S analysis), proposes this deep structure for the relative clauses (Smith, 1964).

8.



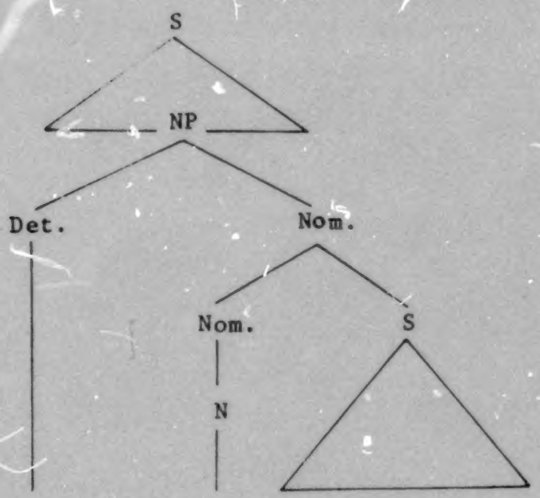
Another view widely accepted by transformationalists, possibly due to the post-nominal position of the relative clause, is that all attributive relative clauses are embedded in the noun phrase which terminates in the antecedent (NP-S analysis). According to this proposal the relative clauses are derived from this structure (Ross, 1967).

9.



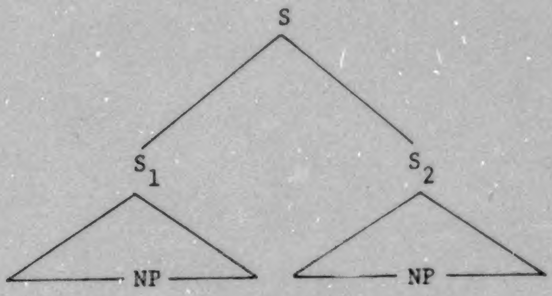
A similar view proposed by Stockwell et al. (1973:422-501) maintains that attributive relative clauses do not modify the noun phrase in the matrix sentence, but rather the noun alone, and hence must be derived from this configuration (nom-S analysis).

10.



Still another view proposed by Annear (1971) maintains that the relative clause and the matrix sentence are conjoined in the deep structure (the deep structure conjunction analysis) as shown in this configuration.

11.



Among these views proposed, the deep structure conjunction analysis, or at least an analysis in which the relative clause occurs outside the matrix sentence in the deep structure, is more compatible with the data in Persian for the following reasons.

1. It blocks the formation of stacked relative clauses, not permissible in Persian.

2. It allows the derivation of the relative clauses which do not immediately follow their antecedent, but occur outside the matrix sentence.

3. It provides an identical environment for the application of a common set of transformations for both attributive and appositive relative clauses.

In regard to complement clause formation, the analyses available thus far either treat complement clause formation as a purely syntactic process having nothing to do with semantic properties of the sentences, or as a syntactic process which has its roots in the semantic properties of the complement clauses. A sketch of the main features of the works on English complementation by Rosenbaum, Lakoff, and particularly the Kiparskys is necessary as a background for the description of Persian complement clauses. Rosenbaum's Grammar of English Predicate Complement Constructions (1967a) was the first syntactic approach to the question of English complement clauses.

In his analysis Rosenbaum first divided complement clauses into verb phrase complementation (VP-comp) and noun phrase complementation (NP-comp). He then sub-divided the VP-comp into three classes and NP-comp into four classes. His verb phrase complement included the following.

Intransitive verb phrase complementation.

12. The doctor condescended to examine John.

Transitive verb phrase complementation.

13. I compelled the doctor to examine John.

Oblique verb phrase complementation.

14. I rely on the doctor to examine John.

His category of noun phrase complements consists of the following.

Object noun phrase complementation.

15. Everybody thinks that the doctor examined John.

Intransitive oblique noun phrase complementation.

16. They hoped (for) that the doctor would examine John.

Transitive oblique noun phrase complementation.

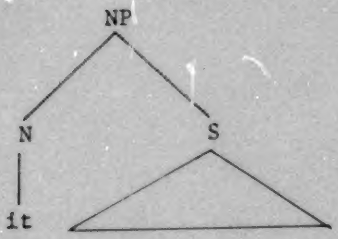
17. They forced the doctor to examine John.

Subject noun phrase complementation.

18. That the doctor examined John does not matter.

He further stipulated that all noun phrase complement clauses are characterized in their deep structures by the configuration in which the noun phrase is expanded into the indefinite pronoun it called the pronominal head of the complement clause and a sentence, as shown in this diagram.

12.



The distinction between VP-comp and NP-comp, according to Rosenbaum, was based on:

The behavior of the complement clause under the passive transformation.

19. The fact that she sleeps proves nothing.

Nothing is proved by the fact that she sleeps.

The behavior of the complement clause under the so-called pseudo-cleft transformation.

20. She prefers to talk with us.

What she prefers is to talk with us.

21. She condescended to talk with us.

*What she condescended was to talk with us.

The interlock between phrase structure and transformational rules.

As shown in these examples Rosenbaum maintained that only noun phrase complement clauses can undergo passivization and can be pseudo-clefted.

Rosenbaum set up three complementizers, namely, that, poss-ing, and for-to.

22. I dislike it that he is so cruel.

23. I dislike it for him to be so cruel.

24. I dislike his being so cruel.

In his analysis the complementizers were introduced into the deep structures of the complement clauses on the basis of the arbitrary marking on the pronominal head of the complement clause.

Further investigation of the English complement clauses has revealed that Rosenbaum's distinction between VP-comp and NP-comp might have been based on faulty criteria. Three independent investigators, Wagner (1968), Bower (1968), and Loflin (1968) have found that the passive and pseudo-clefted versions of some VP-comp, cited in Rosenbaum, are not totally ungrammatical when the appropriate prepositions are restored in these sentences.

25. What she condescended to was to talk to us.

In addition to this observation neither passive nor pseudo-cleft transformation exhaust all the noun phrase complement paradigms in English, an indication that some other factor than being a noun phrase might be involved in the formation of passive and pseudo-clefted versions of sentences.

Other investigations have indicated that Rosenbaum's classification of the English complement clause is unnecessary and in a few cases incorrect. In her analysis of Latin complement clauses, Robin Lakoff (1968) found that the intransitive and transitive verb complements proposed by Rosenbaum were redundant and should be eliminated altogether. The reason for this elimination was that in English these constructions are synonymous with sentences regarded by Rosenbaum as ordinary subject and object noun phrases. Lakoff also observed that in examples 14 and 16 the prepositions which follow the main verbs are not independent units, but a part of the verb. This observation resulted in the elimination of the oblique verb phrase complement as well as the elimination of the intransitive verb phrase complement from her description. In all, Lakoff recognized three classes of complements: subject complements, object complements, and transitive oblique complements.

While Rosenbaum and Lakoff treated complement clause formation as a purely formal process, a more recent study by Paul and Carol Kiparsky (1970: 143-173) proposed that the differences in the forms of the complement clause do not arise from arbitrary syntactic features but rather from the semantic properties of these sentences.

According to this proposal sentences 26a and 26b differ in that in the first sentence the speaker presupposes that the sentential complement is true; but in the second sentence he merely asserts or believes that the sentential complement is true, but does not presuppose its factuality.

26a. I regret that John is ill.

b. I believe that John is ill.

The Kiparskys call the complements of the first type 'factive' and the second type 'non-factive.' They further show that this semantic distinction correlates with several formal characteristics of the complement clauses. For instance only a factive complement allows the occurrence of the noun 'fact' with a sentential complement.

27a. I regret the fact that John is ill.

b. *I believe the fact that John is ill.

Also only a factive complement allows the formation of the poss-ing construction.

28a. I regret John's being ill.

b. *I believe John's being ill.

On the other hand, non-factive complements allow the subject of the complement clause to become the subject of the main sentence if the latter is an indefinite pronoun.

29a. It is likely that he will come.

b. He is likely to come.

The extraposition of the complement clause is optional with factive but obligatory with non-factive predicates.

30a. That the doctor examined John makes sense to me.

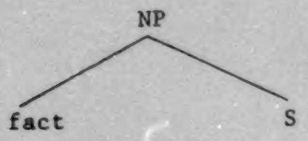
b. It makes sense to me that the doctor examines John.

31a. *That the doctor examined John seems to me.

b. It seems to me that the doctor examined John.

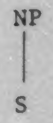
The Kiparskys accommodate this difference between complement clauses by proposing two distinct underlying forms for factive and non-factive complements as in the following diagrams.

13.



factive

14.



non-factive

The Kiparskys' description includes a second semantic parameter called 'emotivity.' This parameter divides the verbs that require a complement in English into the classes of emotive and non-emotive predicates. According to the Kiparskys' definition the emotive predicates are those which express 'the subjective value of a proposition rather than knowledge about it or its truth value' (Kiparsky: 1970, 169). The emotive predicates are, according to them, the source for the for-to constructions in English as in the following example.

32. It is important for us to solve this problem.[4]

With the exception of Rosenbaum, most investigators have assumed that a complement clause in English results from the expansion of either subject or object noun phrases in the main sentence. According to this assumption, the formation of the complement clauses can be expressed by the addition of the following rule to the grammar of English :

---

[4] See Kiparsky and Kiparsky (1970).

$$NP \longrightarrow N\ (S)$$

This assumption is motivated by the fact that it results in one simple deep structure for English. This putative advantage, however, is diminished by both the need for complex and ad hoc transformational rules, and by the absence of a provision to curtail the simultaneous expansion of all noun phrases in the main sentence. As is already well-known, the number of the complement clauses in a sentence is restricted to one clause at a time. Aside from these inherent inadequacies, the analysis of the complement clauses as expanded noun phrases is inconsistent with several facts in the syntax of Persian. These facts will be discussed as we proceed in this study. For the present it suffices to point out that in Persian complement clauses can be more convincingly analyzed as arguments to the predicate (a view long established by traditional grammars), rather than as expanded noun phrases.

3. Descriptive Procedures

The descriptive frame employed in the analysis of the Persian complex sentence is a modified version of the generative-transformational model originally proposed in Chomsky's Aspects of the Theory of Syntax (1965), and developed and enriched in the works of G. Lakoff (1968), Langendoen (1969), Langacker (1968), and Jacobs and Rosenbaum (1968).

The dialect under investigation is the so-called 'Standard Persian', a 'functional dialect' used in instruction, broadcasting, and print. The data presented in this study are drawn from a large corpus gathered through the author's introspection and intuition as a native speaker, as well as consultation with the works of Bahar (1938), Farokh (1958), and Lazard (1957).

The method of analysis pursued throughout this description consists of three major steps.

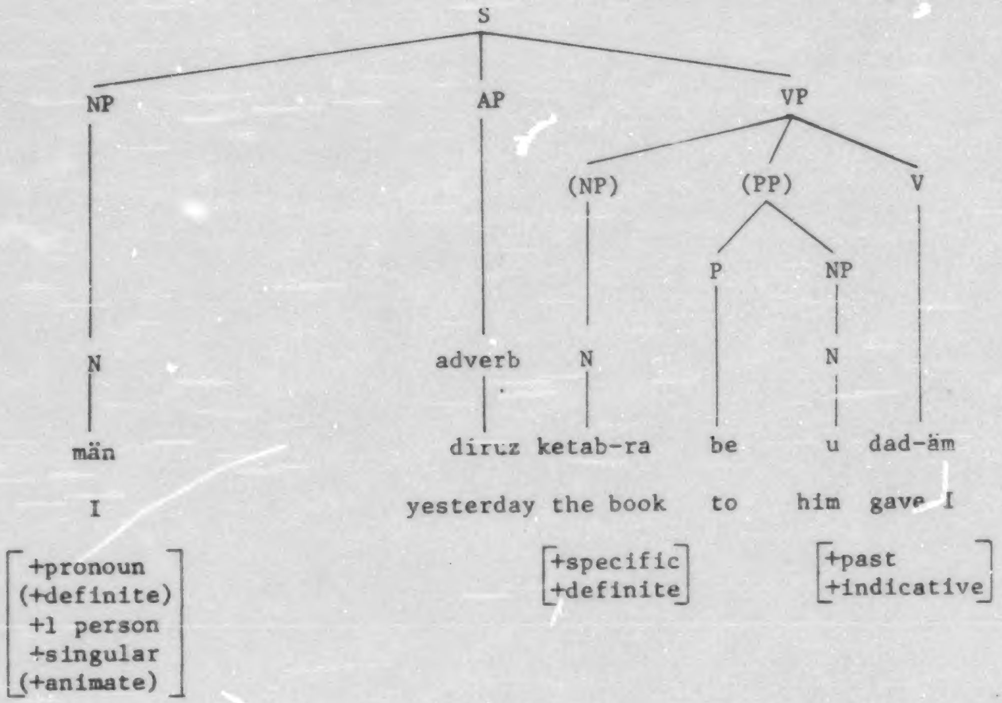
1. The presentation of the surface structure of the sentences under investigation with the aim of exposing their structural pattern.
2. The determination of the deep structures of these sentences on the basis of their surface structure information.
3. The postulation of the necessary transformational rules to map the deep structures to surface structures.

Like other transformational analyses, this study starts with the assumption that in all languages there is a 'single level on which grammatical relations determine semantic interpretation.' (Lakoff and Peters, 1969: 141). This particular level in Persian is spelled out by means of the following phrase structure rules.

a. S $\rightarrow$ NP (AP) VP
b. VP $\rightarrow$ (NP) (PP) V
c. PP $\rightarrow$ P NP
d. NP $\rightarrow$ $\begin{Bmatrix} \text{N} \\ \text{IP} \end{Bmatrix}$
e. IP $\rightarrow$ in
f. AP $\rightarrow$ adverb

This configuration presents the expansion of a simple sentence in the base component according to the phrase structure rules given above.[5]

15.


S
NP
AP
VP
(NP)
(PP)
V
P
NP
N
adverb
N
N
män
diruz
ketab-ra
be
u
dad-äm
I
yesterday
the book
to
him
gave I
+pronoun
(+definite)
+1 person
+singular
(+animate)
+specific
+definite
+past
+indicative

'I gave him the book yesterday.'

---

[5] The Persian glosses given in this study appear in a phonemic transcription without regard to dialectical variants. The value of each phoneme is given in Appendix II.

CHAPTER 1

COMPOUND SENTENCES

1.1 Types of Compound Sentences

A compound or coordinated sentence is defined as a grammatical structure in which two or more clauses are strung together by means of a specific set of connectors such that none of the component clauses (conjuncts) functions as a constituent of any other. The syntactic mechanism through which coordinated sentences are produced is known as *coordination* or *conjunction*, and can, with further elaboration to follow, be presented using this notation.

Coordination: (Co.) member$_1$ Co. member$_2$...Co. member$_n$

A compound sentence either conveys a combinatory, an alternative, or an adversative relation among its members. These relations are universal and may or may not directly correspond to similar logical relations. That is, these relations are basically semantic relations and the area they cover is not coextensive with the area of logical conjunction and disjunction. On the basis of the three fundamental relations expressed by compound sentences, traditional grammarians have recognized three types of compound sentences, namely, the conjunctive (combinative), disjunctive (alternative), and adversative (contrastive) compound sentences. The sentences which appear below exemplify these structures respectively.

1. in käläme där zäban-e fors-e qädim
this word in language Persian old

vä där zäban-e pählävi vojud dar-äd
and in language Pahlavi existence has it

'This word exists in both the Old Persian and the Pahlavi languages.'

2. in käläme (ya) där zäban-e fors-e qädim
this word either in language Persian old

ya där zäban-e pählävi vojud dar-äd
or in language Pahlavi existence has it

'This word exists either in the Old Persian or in Pahlavi.'

3. in käläme där zäban-e fors-e qädim vojud
this word in language Persian old existence

dar-äd ämma där zäban-e pählävi mojud ni-st
has it but in language Pahlavi existant not is it

'This word exists in the Old Persian but does not in Pahlavi.'

In conjunctive clauses where the coordinated members contain identical constituents, the combinatory semantic relation of the conjuncts is explicitly expressed in the immediate context of the compound sentence.

4. xäyam häm monäjem (vä) häm riyazidan
Khayam also astronomer (and) also mathematician

(vä) häm ša?er bude (äst)
(and) also poet been has he

'Khayam has been an astronomer, mathematician and poet.'

In other instances, however, the explanation for the combinative relation among the conjuncts depends upon interpretational factors beyond the immediate context of the speech. This is particularly true of the conjuncts which share no identical constituents.

5. xäyam täqvim-e farsi-ra eslah kärd vä
Khayam the calendar of Persian reform made and

xaräzmi ketabi där bareye jäbr nevešt
Khwarazmi a book about algebra wrote he

'Khayam reformed the Persian calendar and Khwarazmi wrote a book about algebra.'

In both cases, the conjunctive compounds in these examples have a common denominator. This common denominator, which may be manifested in the forms of similarity, simultaneity, succession, and a multitude of other semantic relations, is determined by conditions 'external' to the act of speech. Since none of these relations is uniquely correlated with the formal features of the conjunctive compounds, they cannot be adequately delineated and captured in a syntactic description.

The alternative relation conveyed by the disjunctive clauses is present within the immediate linguistic expression, and unlike conjunctive and adversative clauses, it is not dependent upon interpretational factors. In addition to its alternative use, the disjunctive clause may be used to express an ultimative relation between the conjuncts.

The distinction between the alternative and ultimative uses of the disjunctive clauses is linguistically significant and is signaled in this manner.

1. Alternative disjunctive clauses are coordinated by the paired coordinators ya...(vä) ya, whereas ultimative disjunctive clauses are connected by the single morpheme ya.

6. män ya be-u name mi-nevis-äm ya
I either to him letter ind. write I or

telegraf mi-zän-äm
telegram ind. strike I

'I will either write him a letter or send him a telegram.'

7. saket baš-id ya hämetan-ra äz kelas
quiet be you or all of you from the class

birun mi-kon-äm
outside ind. make I

'Be quiet, or I will throw all of you out of the class.'

2. In alternative disjunctive clauses the coordinated clauses are all of the same type: either declarative, interrogative, or imperative. In ultimative disjunctive clauses, as shown in the example above, the coordinated clause preceding the coordinator ya is imperative and the following clause is declarative.

In an adversative compound the opposition between the conjuncts either amounts to total contrast, in which the second conjunct serves as the semantic counterpart of the first conjunct, or a partial contrast, in which the second conjunct simply states an exception to what is stated in the first conjunct. The total contrast between the conjuncts in an adversative clause is usually, but not exclusively, manifested in the sentences in which the first conjunct is positive and the second conjunct contains a negative morpheme. The use of the adversative compound for expressing either a contrast or an exception is a semantic distinction and is not correlated with any specific syntactic characteristic of the adversative compounds. This semantic difference is shown in the examples below.

8. be-män name be-nevis-id ämma telegraf
to me letter imp. write you but telegram

nä-zän-id
not strike you

'Write me a letter but do not send me a telegram.'

9. häme-ye dustan be-män name nevešt-änd
all of the friends to me letter wrote they

ämma häsän name-i nä-nevešt
but Hassan a letter not wrote

'All my friends wrote me letters but Hassan did not.'

1.2 Binary, N-ary, and Multiple Coordination

In respect to the number of conjuncts within a compound sentence, the conjunctive and alternative disjunctive clauses differ from the adversative and ultimative clauses in that in the former a theoretically infinite number of conjuncts can be coordinated at a single grammatical level, while in the latter coordination is restricted to two and only two members at a time. In other words, the conjunctive and alternative disjunctive clauses could express either a binary or an n-ary relation, but the adversative or ultimative clauses always express a binary relation between their conjuncts. A typical example of the seemingly open-endedness of the conjunctive and alternative disjunctive coordinating mechanism is provided by this classic sentence, which corresponds to six deep structure conjuncts.

10. amed-änd-o, känd-änd-o, suxt-änd-o,
came they and destroyed they and burnt they and

košt-änd-o, bord-änd-o, räft-änd.
slew they and looted they and left they

'They came, and destroyed, and burned, and
slew, and looted, and left.'[1]

These characteristics governing all compound sentences stem from the inherent semantic contents of conjunctive, disjunctive, and adversative clauses.

A compound sentence might also contain multiple coordination. The term multiple coordination is used to refer to those situations where a coordinated construction, consisting of two or more conjuncts, functions as a single conjunct within a larger coordinated construction. In multiple coordination, exemplified by the sentences below, coordination takes place in separate grammatical hierarchies within a compound sentence.

11. u engelisi vä färanse mi-dan-äd vä
he English and French ind. know he and

tazegi-ha rusi häm yad gereft (äst)
recently Russian too memory taken is he

'He knows English and French, and recently
he has learned Russian too.'

12. u engelisi vä färanse mi-dan-äd ämma
he English and French ind. know he but

almani bäläd ni-st
German knowledgeable not is he

'He knows English and French, but he does not
know German.'

13. ya engelisi vä färanse yad begir-id
either English and French memory intake you

---

[1] This quotation is from Joveini's *Tarikh-e Jahan Gosha* (History of the World Conqueror). See Levy 1951:56.

ya almani vä rusi
or German and Russian

'Either learn English and French, or German and Russian.'

In these examples we do not have one coordination, but rather a system of different coordinations built into each other.

1.3 Sentence and Phrase Conjunction

The surface coordinated constructions in Persian are formed either through derived or phrasal conjunction. In derived conjunction each coordinated member in the surface structure corresponds to a deep structure simple clause (conjunct). In phrasal conjunction, on the other hand, coordination occurs among individual elements of a sentence, specifically noun phrases in subject and object positions. Among the three types of compound sentences, the disjunctive and adversative clauses are formed by means of derived conjunction, whereas the conjunctive clauses might be formed either through derived or phrasal conjunction. Stated in a different way, in disjunctive and adversative compounds coordination takes place only at one specific level of the grammatical hierarchy, while in conjunctive clauses it might take place at two different levels.

The postulation of the deep structure conjoined clauses as the source of the conjunctive, disjunctive, and adversative compound sentences (derived conjunction), as well as the postulation of deep structure noun phrases as the source of some conjunctive clauses is necessitated by a variety of syntactic and semantic factors summarized below.

The derived conjunction is necessary to account for the semantic equivalence of the compound sentences in which identical constituents, occurring in similar position in the conjuncts, are often deleted in the surface structures. As an illustration of this deletion consider sentence 14 and its semantically equivalent paraphrases in 14a and 14b, in which the initial and the final clauses, respectively, are deleted.

14. ya emruz in mozu? rošän mi-šev-äd
either today this matter light ind. get it

ya färda in mozu? rošän mi-šev-äd
or tomorrow this matter light ind. get it

'Either today or tomorrow this matter will come to light.'

14a. ya emruz ya färda in mozu? rošän mi-šev-äd
either today or tomorrow this matter light ind. get it

'Either today or tomorrow this matter will come to light.'

14b. ya emruz in mozu? rošän mi-šev-äd ya färda
either today this matter light ind. get it or tomorrow

'This matter will come to light either today or tomorrow.'

The derived conjunction analysis is necessary for the correct implementation of the obligatory person and number agreement in the compound sentences with identical subject noun phrases.

15. (män) u-ra did-äm vä šoma-ra häm molaqat kärd-äm
I him saw I and you also meeting made I

'I saw him and I met you too.'

16. u kušeš kärd ämma moväfäq nä-šod
he try made but successful not got

'He tried but did not succeed.'

The phrasal conjunction is, on the other hand, needed to account for the behavior of the coordinated noun phrases which function as the subjects of the so-called symmetric predicates. (Lakoff and Peters 1969.)

17. mina vä näsrin xahär-änd
Mina and Nasrin sister(are)they

'Mina and Nasrin are sisters.'

The phrasally conjoined subjects in these structures are often accompanied by the reciprocal pronouns häm digär, yek digär 'each other', ba-häm 'with each other', be-häm 'to each other'.

18. mina vä näsrin häm digär-ra mälamät kärd-änd
Mina and Nasrin each other blame made they

'Mina and Nasrin blamed each other.'

19. mina vä näsrin ba-häm engelisi
Mina and Nasrin with each other English

sohbät-kärd-änd
conversation made they

'Mina and Nasrin spoke English with each other.'

20. mina vä näsrin be-häm šäbih-änd
Mina and Nasrin to each other similar are they

'Mina and Nasrin are similar.'

Phrasal conjunction is also necessary to describe the compound sentences in which coordinated noun phrases function as the subject of a stative predicate and are qualified by a numeral.

21. iran, äräbestan-e so?udi, äraq, koveit,
Iran Arabia of Saudi Iraq Kuwait

qätär, vä äbu zäbi šeš kešvär-e näft-xiz-e
Qatar and Abu Dhabi six states of oil producing of

xälij-e fars häst-änd
gulf of Persia are they

'Iran, Saudi Arabia, Iraq, Kuwait, Qatar and Abu Dhabi
are the six oil producing states of the Persian Gulf.'

The distinction between derived and phrasal conjunction is essential in explaining compound sentences which have more than one semantic interpretation as in this example.

22a. in zoruf äz täla vä noqre saxte šode (äst)
these dishes of gold and silver made got (has)

'These dishes are made of gold and of silver.'

22b. in zoruf äz täla vä noqre saxte šode (äst)
these dishes of gold and silver made got (has)

'These dishes are made of gold and silver.'

The surface ambiguity which characterizes this type of sentence is attributable to the different internal arrangements of the coordinated constituents in their deep structures.

The distinction between derived and phrasal conjunction provides a natural way to explain the fact that compound sentences which stem from deep structure conjoined sentences, as in example 23, entail simple grammatical sentences (examples 23a and 23b), while the compound sentences in which the coordinated members are phrasally conjoined in their deep structures, as in examples 24 and 25, are irreducible structures.

23. män mina-ra did-äm vä ba-u sohbät kärd-äm
I Mina saw I and with her conversation made I

'I saw Mina and I spoke to her.'

23a. män mina-ra did-äm
I Mina saw I

'I saw Mina.'

23b. män ba mina sohbät kärd-äm
I with Mina conversation made I

'I spoke with Mina.'

24. tänge-ye hormoz beyne xälij-e fars
the strait of Hormuz between the gulf of Persia

vä därya-ye ?oman qärar dar-äd
and the sea of Oman located has it

'The Strait of Hormuz is located between the Persian
Gulf and the Sea of Oman.'

25. qese-ye muš-o gorbe yeki äz
the story of the mouse and the cat one of

širin-tärin dastanha-ye farsi äst
the sweetest tales of Persian is

'The story of *The Mouse and the Cat* is one of the
most pleasant tales in Persian.'

Although it is possible that other major categories (verb phrases, prepositional phrases, and adverbial phrases) or minor categories (verbs, nouns, adverbs, and adjectives) are also phrasally conjoined in deep structures, there is neither any clear-cut syntactic or semantic evidence in Persian which seems to require the extension of the coordination schema to these categories, nor would such a distinction lead to any significant semantic or syntactic generalization pertaining to the compound sentences.

1.4 Coordinators

Persian has two distinct sets of coordinators for combining the coordinated members of a compound sentence. One set of coordinators, made of single connectors and referred to as primary coordinators, are: *vä* 'and', *ya* 'or', and *ämma* 'but'. Another set of coordinators, the secondary coordinators, consists of *vä...häm* 'and...too', *häm...(vä)häm* 'both...and', *ya...(vä)ya* 'either...or', *ce...(vä)ce* 'whether...or', *xah...(vä)xah* 'whether...or', and *nä...(vä)nä* 'neither...nor'.

The secondary coordinators differ from the primary coordinators in that they not only coordinate the members of a compound sentence, but they also signal emphasis (*häm...(vä)häm*),negation (*nä...(vä)nä*), and mood (*ce...(vä)ce*, *xah...(vä)xah*).

26. in käläme häm där zäban-e fors-e qädim (vä)
this word also in language Persian old and

häm där zäban-e pählävi vojud dar-äd
also in language Pahlavi existence has it

'This word exists in both the Old Persian and the
Pahlavi languages.'

27. in käläme nä där zäban-e fors-e qädim (vä)
this word not in language Persian old and

nä där zäban-e pählävi vojud dar-äd
not in language Pahlavi existence has it

'This word exists neither in Old Persian nor in
Pahlavi.'

28. in käläme ce där zäban-e fors-e qädim
this word whether in language Persian old

(vä) ce där zäban-e pählävi vojud dašte
and whether in language Pahlavi existence has

baš-äd,där zäban-e farsi mojud ni-st
had it in language Persian existent not is it

'Whether this word exists in Old Persian or in
Pahlavi, it does not exist in Modern Persian.'

The primary and secondary coordinators are prepositive, i.e., they immediately precede the constituents they coordinate. The primary coordinators (*vä*, *o*, *ya*, *ämma*, *väli*, *likän*) occur before any members of the coordination except the initial member. The secondary coordinators, which are identical in phonemic shape (repetitive coordinators), occur before all coordinated members of the compound sentence.

The paired coordinator vä...häm 'and...too' is a postpositive coordinator and occurs before and after the subject noun phrases in the second conjunct.

29. šoma-ra did-äm vä u-ra häm molaqat kärd-äm
you saw I and him too meeting made I

'I saw you and I met him too.'

In Persian, coordination by juxtaposition is also allowed in a few instances. This rather rare means of coordination occurs whenever several coordinated members occupy the subject or object position in a sentence.

30. sal-ha, mah-ha, häfte-ha, (vä) ruz-ha gozäšt,
years months weeks and days passed it

vä äz u hic xäbäri nä-yam-äd
and from him no news not come it

'Years, months, weeks, and days passed, and nobody heard from him.'

In this situation the coordinator may optionally occur before the last coordinated member. As will be shown later, coordination by juxtaposition is limited to phrasally conjoined constituents in a coordination.

Each type of compound sentence specified above is associated with a particular set of coordinators. The coordinators vä, o 'and', häm...(vä)häm 'both...and', vä...häm 'and...too', and nä...(vä)nä 'neither...nor' are used to coordinate the members within a conjunctive sentence. The coordinators ya 'or', ya...(vä)ya 'either...or', ce...(vä)ce 'whether...or', and xah...(vä)xah 'whether...or', combine the members of a disjunctive clause. The coordinators ämma, väli, likän, and vä 'but' coordinate the members of an adversative clause.

Within each set of coordinators the use of a specific coordinator is determined by either stylistic, semantic, or syntactic considerations as summarized below.

1. The enclitic single coordinator o 'and' is used as a conjunctive coordinator in rapid colloquial speech and poetry, and thus its selection is solely determined by the tempo of speech. In written language the coordinator o is attached to the preceding constituent.

31. u englisi-o, rusi-o, almani-o, färanse
he English and Russian and German and French

xub mi-dan-äd
well ind. knows he

'He speaks English, Russian, German, and French well.'

2. The single conjunctive coordinator vä is basically the most neutral coordinator in Persian and is exclusively used to coordinate the conjuncts in which the predicates express a successive event.

32. u äz xane birun amäde vä montäzer-e
he of the house outside came and in expectation of

dust-äš istad
friend his stood he

'He came out of the house and stood waiting for his friend.'

3. The paired coordinator häm...(vä)häm 'both...and' (literally also...(and)also) is the emphatic counterpart of the coordinator vä and is used when the speaker means that each member of the coordination must be taken separately in its own right and with equal emphasis. The coordinated members connected by means of the paired coordinator cannot be accompanied by the quantifiers

which have the effect of unifying the coordinated members. This coordinator is usually, but not exclusively, used in situations where the conjuncts express similar or simultaneous actions. The semantic difference between the unemphatic and emphatic conjunctive coordinators is apparent from the sentences below.

33. xälij-e fars märkäz-e sodur-e näft vä
gulf of Persia center of export of oil and

šah-rah-e abi-ye iran äst
main way of water of Iran is it

'The Persian Gulf is the center of oil exportation
and the main waterway of Iran.'

34. xälij-e fars häm märkäz-e sodur-e näft
gulf of Persia also center of export of oil

(vä) häm šäh-rah-e abi-ye iran äst
and also the main way water of Iran is it

'The Persian Gulf is both the center of oil exportation
and the main waterway of Iran.'

4. The conjunctive coordinator vä...häm 'and...too' (literally and...also) has neither a semantic nor a stylistic significance, but is used in situations where the coordinated members, usually verb phrases, are interrupted by other constituents. That is, the only value of this coordinator is to restore the cohesiveness of the coordinated members, as in this example.

35. (män) be-u name mi-nevis-äm vä telegraf
I to him letter ind. write I and telegram

häm mi-zän-äm
too ind. strike I

'I will write him a letter and send him a telegram
too.'

5. The negative coordinator nä...(vä)nä 'neither...nor' (literally not...(and)not) is used when a conjunctive compound

consists of negative conjuncts. That is, this coordinator is the negative counterpart of the coordinator *häm...(vä)häm*.

36. nä u be-män name nevešt nä šoma
neither he to me letter wrote he nor you

'Neither he nor you wrote me a letter.'

The selection of the coordinators in disjunctive clauses is determined by the following factors.

1. The single coordinator *ya* 'or' is used when the choice of one alternative versus the other is either predetermined by the speaker (as in example 7) or when the speaker simply inquires about one alternative versus the other (as in example 37).

37. emruz mi-rev-id ya färda
today ind. go you or tomorrow

'Will you go today or tomorrow?'

2. The paired coordinator *ya...(vä)ya* 'either...or' is used whenever there is a true choice among the alternatives presented by the conjuncts.

38. ya šoma doruq mi-gu-id ya u
either you lie ind. tell you or he

doruq mi-guy-äd
lie ind. tell he

'Either you are lying or he is lying.'

3. The paired coordinators *xah...(vä)xah* (literally want... and want) and its variant form *ce...(vä)ce* (literally what...and what), as well as the colloquial *mi-xad...mi-xad* (literally want... want), all corresponding to the English *whether...or*, are used when the conjuncts are in the subjunctive mood.

39. xah baran be-yay-äd (vä) xah nä-yay-äd
whether rain subj. come it (and) or not come it

män mi-rev-äm
I ind. go I

'Whether it rains or not I will go.'

40. ce xub ce bäd bäraye män täfavot
whether good or bad for me difference

nä-dar-äd
not have it

'Whether good or bad it makes no difference to me.'

The various coordinators used to connect the conjuncts in an adversative clause are synonymous and have only stylistic significance. The distribution of these coordinators is given below.

1. The coordinators ämma and väli 'but' are equally used in both formal and informal, written and colloquial speech.

41. män anja bud-äm väli u-ra nä-did-äm
I there was I but him not saw I

'I was there but I did not see him.'

42. män be-u name nevešt-äm ämma u jävab nä-dad
I to him letter wrote I but he reply not gave he

'I wrote him a letter but he did not reply.'

2. The archaic coordinators likän, and välikän are often used in a highly stylized form of writing. All of the adversative coordinators are borrowed from Arabic.

43. män anja bud-äm välikän u-ra molaqat nä-kärd-äm
I there was I but him meeting not made I

'I was there but I did not meet him.'

3. In some instances where the opposition between the conjuncts of an adversative clause is clearly manifested in the context and hence no ambiguity would result, the conjuncts are connected by

the universal coordinator vä as in this example.

44. salha gozäšt vä män hänuz qiyafe-ye ura
year passed but I still face of him

färamuš nä-kärde-äm
forget not made I (have)

'Years have passed, but I have not forgotten his face yet.'

To summarize what has been said thus far, the compound sentences in this language have this general pattern.

1. Any coordinated construction is either a conjuctive, disjunctive, or an adversative compound sentence.

2. If it is conjunctive it expresses either a similarity, simultaneity, succession, or a reciprocal relation among its conjuncts.

3. If it is a disjunctive compound it either expresses an alternative or an ultimative relation among its conjuncts.

4. If it is an adversative compound, one conjunct is in direct contrast to the other or is simply an exception to the other.

5. In conjunctive and alternative disjunctive compounds coordination is between two or more conjuncts at a single grammatical level, i.e.

$$M_1 + M_2$$

$$M_1 + M_2 \ldots M_n$$

In an adversative or alternative disjunctive compound, the coordination is between two and only two conjuncts at a specific grammatical level.

$$M_1 + M_2$$

6. In conjunctive and disjunctive compounds the conjuncts are coordinated either by paired or by single coordinators. In adversative compounds the conjuncts are always connected by means of single coordinators.

$$M_1 + Co. + M_2 + Co. . . M_n$$

$$Co. + M_1 + Co. + M_2 + Co. . . M_n$$

If both paired and single coordinators can be employed in a compound sentence, the selection of the coordinators is conditioned by either semantic, syntactic, or stylistic factors.

7. In conjunctive compounds the surface coordinated members either stem from deep structure clauses or from noun phrases. The disjunctive and adversative clauses are both derived from deep structure clauses.

8. In disjunctive compounds the conjuncts can be either in the indicative or the subjunctive mood. In conjunctive and adversative they are in the indicative mood.

9. In conjunctive compounds, if the conjuncts are noun phrases connected by the coordinator vä, then there are either (n-1) occurrences of this coordinator or there is just one coordinator before the last member of the coordination.

$$M_1 + Co. + M_2 + Co. . . M_n$$

$$M_1 + M_2 + Co. + M_n$$

1.5 Phrase Structure Rules

Many of the differences among the compound sentences including the differentiation among conjunctive, disjunctive, and adversative compounds; the binary/n-ary coordination; the distinction between emphatic/non-emphatic, alternative/ultimative, and the sentential/phrasal opposition, are established in the deep structures of the compound sentences by the following phrase structure rules.

$$\text{1a.}\quad S \longrightarrow S(\text{Coordinator } S)^{n} \qquad n \geq 1$$

$$\text{b.}\quad \text{Coordinator} \longrightarrow \left\{\begin{array}{ll} \left[\left\{\begin{array}{l}\text{conjunctive}\\ \text{disjunctive}\end{array}\right\}\right] & /S\underline{\quad}S\ \text{Co...} \\ & \\ \left[\left\{\begin{array}{l}\text{conjunctive}\\ \text{disjunctive}\\ \text{adversative}\end{array}\right\}\right] & /\text{elsewhere}\end{array}\right\}$$

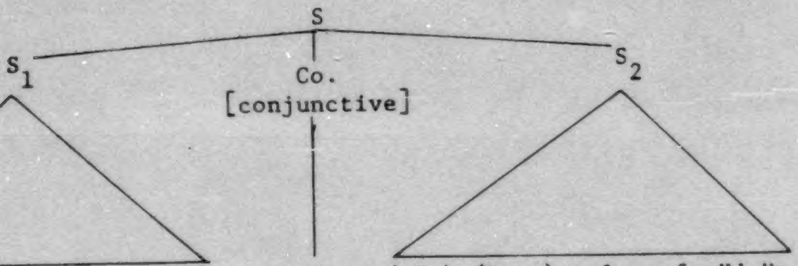
$$\text{c.}\quad \text{conjunctive} \longrightarrow \begin{array}{c}\text{vä}\\ [\pm\text{emphatic}]\end{array}$$

$$\text{d.}\quad \text{disjunctive} \longrightarrow \left\{\begin{array}{ll} \quad\text{ya} & \\ [+\text{alternative}] & /S\underline{\quad}S\ \text{Co...}\\ [\pm\text{alternative}] & /\text{elsewhere}\end{array}\right\}$$

$$\text{e.}\quad \text{adversative} \longrightarrow \left\{\begin{array}{l}\text{ämma}\\ \text{väli}\\ \text{vä}\end{array}\right\}$$

The coordination schema 1, which is an abbreviation of an infinite number of phrase structure rules, and a formalized version of the coordination notation given before, generates the three basic structures for coordinated sentenced presented without details in the phrase markers below.

1.1


S
S1
Co.
[conjunctive]
S2

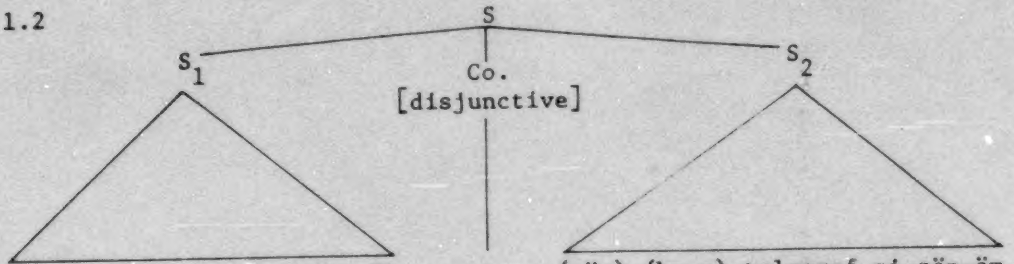
män be-u name nevešt-äm vä (män) (be-u) telegraf zäd-äm

[±emphatic]

I to him letter wrote I and I to him telegram struck I

'I wrote him a letter and I sent him a telegram too.'

1.2


S
S1
Co.
[disjunctive]
S2

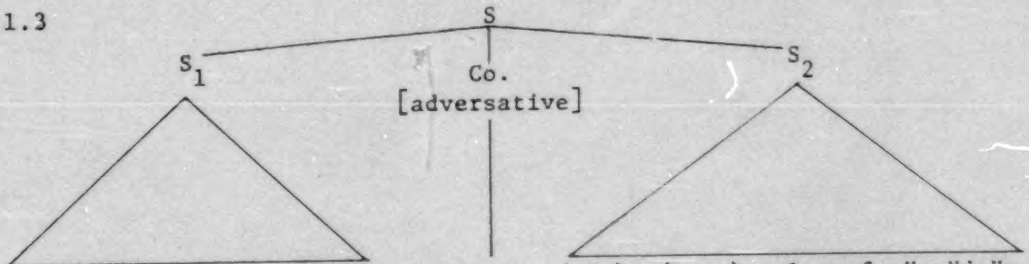
män be-u name mi-nevis-äm ya (män) (be-u) telegraf mi-zän-äm

[±alternative]

I to him letter write I or I to him telegram strike I

'I will either write him a letter or send him a telegram.'

1.3


S
S1
Co.
[adversative]
S2

män be-u name mevešt-äm ämma (män) (be-u) telegraf nä-zäd-äm

I to him letter wrote I but I to him telegram not struck I

'I wrote him a letter but I did not send him a telegram.'

The majority of surface coordinated constructions in Persian stem from the above structures. They may appear in surface structures as either coordinated clauses, coordinated phrases, or coordinated nouns, verbs, adjectives, or adverbs.

The coordination schema 1, however, does not generate all of the coordinated constructions. As pointed out in the distinction between sentence and phrasal conjunction, a few compound sentences are formed by coordinating individual noun phrases in a compound sentence. These coordinated constructions are generated through this rule-schema.

$$\text{2a.}\quad \text{NP} \longrightarrow \text{NP} \left(\begin{matrix} \text{Coordinator} \\ \begin{bmatrix} \text{conjunctive} \\ \text{-emphatic} \end{bmatrix} \end{matrix} \ \text{NP} \right)^{n} \ \text{Q}$$

$$n \geqslant 1, \quad \text{Q} = \text{quantifier}$$

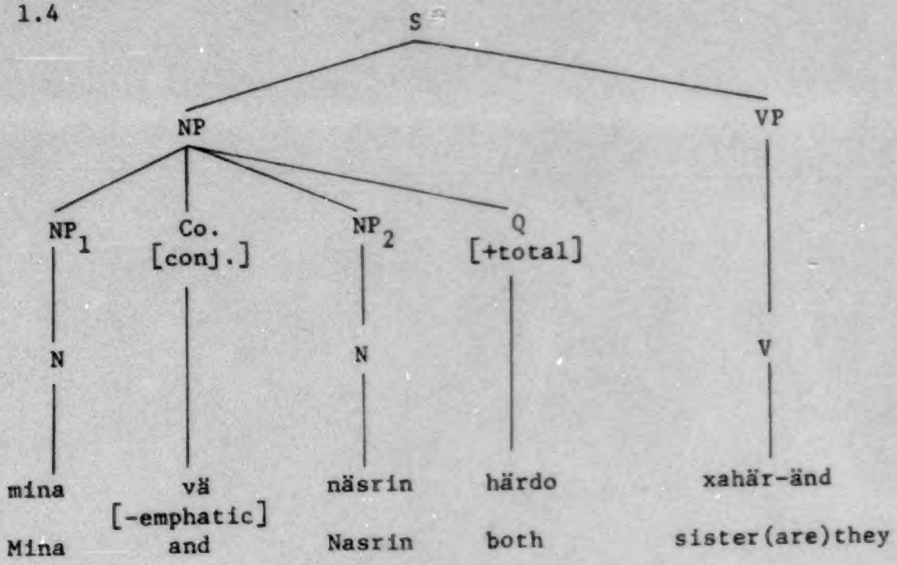
$$\text{b.}\quad \text{Q} \longrightarrow [\pm\text{total}]$$

$$\text{c.}\quad [+\text{total}] \longrightarrow \left\{ \begin{matrix} \text{häme/NP\_\_\_NP Co...} \\ \text{härdo/elsewhere} \end{matrix} \right\}$$

$$\text{d.}\quad [-\text{total}] \longrightarrow \left\{ \begin{matrix} \text{hickodam/\_\_\_}[+\text{negative}] \\ \text{härkodam/elsewhere} \end{matrix} \right\}$$

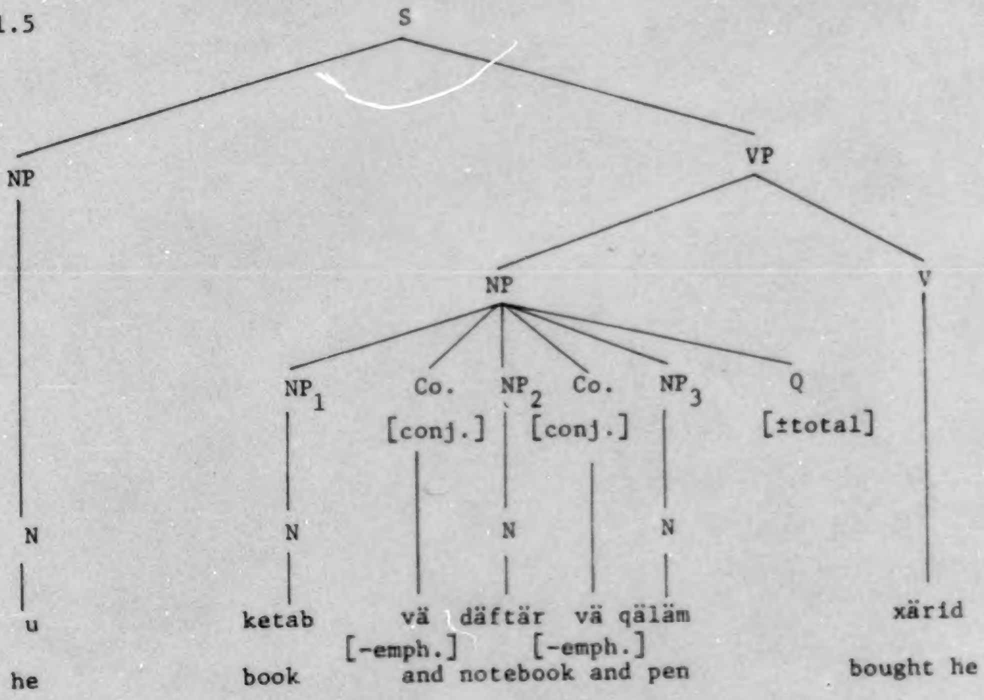
Depending on the position of the noun phrases on which schema 2 operates, the compound sentences containing coordinated noun phrases stem from one of the following phrase markers, in which lexical items are introduced for illustration.

1.4


S
NP
VP
NP1
Co.
[conj.]
NP2
Q
[+total]
N
N
V
mina
vä
[-emphatic]
näsrin
härdo
xahär-änd
Mina
and
Nasrin
both
sister(are)they

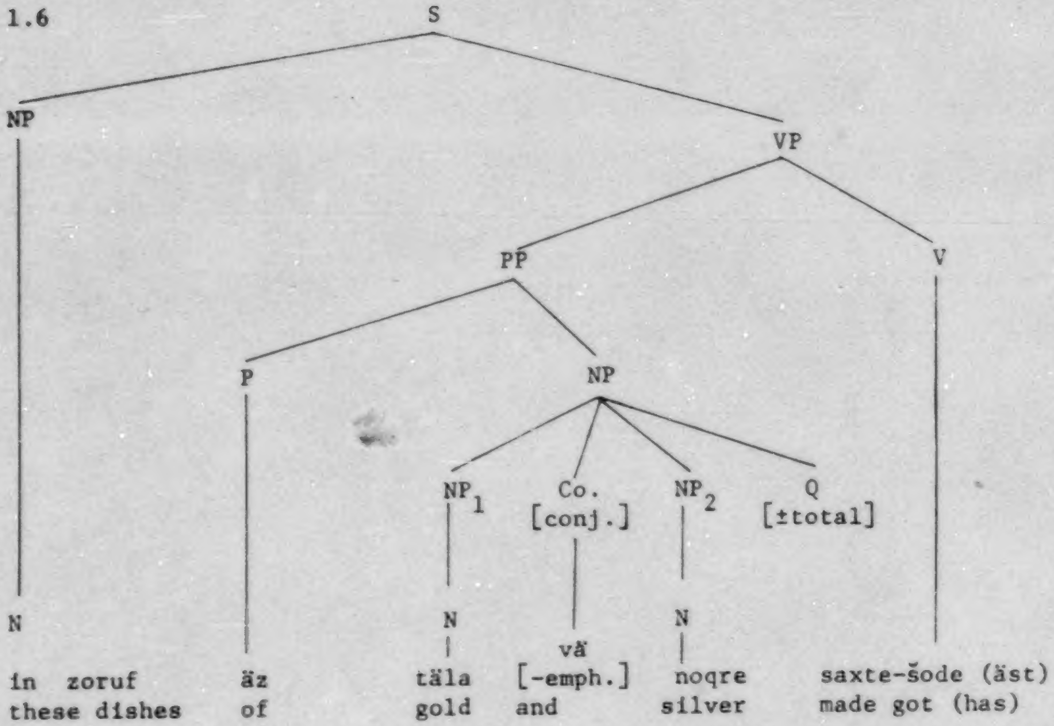
'Mina and Nasrin are sisters.'

1.5


S
NP
VP
NP
V
NP1
Co.
[conj.]
NP2
Co.
[conj.]
NP3
Q
[±total]
N
N
N
N
u
ketab
vä
[-emph.]
däftär
vä
[-emph.]
qäläm
xärid
he
book
and
notebook
and
pen
bought he

'He bought a book, a notebook, and a pen.'

1.6


S
NP
VP
PP
V
P
NP
NP1
Co. [conj.]
NP2
Q [±total]
N
N
vä [-emph.]
N
in zoruf
these dishes
äz
of
täla
gold
and
noqre
silver
saxte-šode (äst)
made got (has)

'These dishes are made of gold and silver.'

The coordinated constructions which stem from structures 4,5 and 6 can be optionally accompanied by the quantifiers härdo 'both', häme 'all', härkodam 'each', and hickodam 'none, neither'.

45. pesäran vä doxtäran häme be-säf istade
the boys and the girls all in line standing

bud-änd
were they

'The boys and the girls all were standing in line.'

46. sä?di vä hafez härdo äz šo?ära-ye nami-ye
Saadi and Hafiz both of the poets of fame of

in särzämin häst-änd
this country are they

'Saadi and Hafiz are both famous poets of this country.'

47. män vä šoma härkodam be-u yek tuman bedehkar-im
I and you each to him one tuman debtor (are) we

'I and you each owe him one tuman.'

48. män äz šoma vä äz u hickodäm xoš-äm
I of you and of him none pleasure of mine

nä-mi-ay-äd
not ind. come it

'Neither you nor he interests me.'

The quantifiers accompanying the coordinated noun phrases in these examples differ in this manner. The quantifiers härdo and häme refer to the coordinated members as a whole with no reference to the individual members of the coordination. The quantifiers härkodam and hickodam, on the other hand, have the effect of referring to each individual member of coordination separately. We propose to capture this distinction by the use of the feature [±total] in the phrase structure rules of the grammar of Persian. The quantifier härdo differs from häme in that the former always occurs after two and only two coordinated members, whereas the latter follows plurals and coordinated noun phrases which consist of more than two members. The quantifier härkodam differs from the quantifier hickodam in that the former is exclusively used with the nouns which occur as the subjects or objects of a positive verb, whereas the latter occurs in sentences with a negative verb. The distinction between härdo and häme, on the one hand, and härkodam and hickodam, are both predictable from their environments as stated in rules 2.c. and 2.d. respectively. The quantifiers are often deleted in the surface structure compound sentences.

1.6 Transformations

The phrase structure rules 1 and 2 provide the basic structure for compound sentences in Persian, but there are still several surface phenomena such as the position of the coordinators, lexical changes in the coordinators, word order variation in surface structures of the compound sentences, agreement, the deletion of the identical constituents, and addition of affixes which must be accounted for. These changes are worked out my means of transformations as described below. Crucial for the application of these transformations are the notions 'similar constituents', by which we mean the constituents which occur in similar positions in the conjuncts (i.e., are all subjects, objects, adverbs, or main verb, etc.) but dominate different lexical items, and 'identical constituents', which refers to the constituents which occur in similar positions in the conjuncts and dominate identical lexical items.

As pointed out in Section 1.4 the coordinators do not have a fixed position and do occur in various slots (before clauses, noun phrases, verb phrases, etc.) in a compound sentence. The variation in the position of the coordinators depends on whether the conjuncts have identical constituents. If the coordinated clauses do have identical constituents, a coordinator immediately precedes the constituents which occur in similar positions within the conjuncts and dominate non-identical items. In addition, the single coordinators occur before similar constituents in all except the initial conjunct while the paired coordinators accompany similar constituents in all conjuncts. The distribution of both single and paired coordinators is transformationally accounted for by means of the coordinator placement rules given in the notations below.

1a. $$\left[_{S}\ \left[_{S_1} [W]\ [X]\right] \left\{\begin{matrix} \left[\begin{matrix}\text{vä}\\ [+\text{emphatic}]\end{matrix}\right] \\ \left[\begin{matrix}\text{ya}\\ [+\text{alternative}]\end{matrix}\right]\end{matrix}\right\} \left[_{S_2} [Z]\ [Y]\right]\right]$$

$$\Longrightarrow \left\{\begin{matrix} \left[_{S}\ \left[_{S_1} [W]\ [\text{häm } X]\right]\ \left[_{S_2} [Z]\ [\text{häm } Y]\right]\right] \\ \left[_{S}\ \left[_{S_1} [W]\ [\text{ya } X]\right]\ \left[_{S_2} [Z]\ [\text{ya } Y]\right]\right]\end{matrix}\right\}$$

Conditions: (a) S_1 is the leftmost of any sequence of S's.
(b) X and Y are similar non-null constituents dominating non-identical lexical items.
(c) W and Z are identical.

b. $$\left[_{S}\ \left[_{S_1} [W]\ [X]\ \ [\text{Co.}]\right]\ \left[_{S_2} [Z]\ [Y]\right]\right]$$

$$\Longrightarrow \left[_{S}\ \left[_{S_1} [W]\ [X]\right]\ \left[_{S_2} [Z]\ [\text{Co. } Y]\right]\right]$$

Conditions: (a) X and Y are similar non-null constituents dominating non-identical lexical items.
(b) W and Z are identical.

The placement of the single coordinator häm is not conditioned by any deep structure semantic factor but is determined by the structural description of the conjunctive sentences and is introduced by this transformation.

c. $$\left[_{S}\ \left[_{S_1} [W]\ [X]\right]\ [\text{vä}]\ \left[_{S_2} [Z]\ [Y]\right]\right]$$

$$\Longrightarrow \left[_{S}\ \left[_{S_1} [W]\ [X]\right]\ [\text{vä}]\ \left[_{S_2} [Z]\ [\text{häm } Y]\right]\right]$$

Conditions: (a) X and Y are both non-identical verbs.
(b) W and Z are non-null constituents.

Since any paired coordinator in Persian can be optionally accompanied by the universal coordinator vä, the transformations given above are all subject to the additional optional change given in this rule.

d. $$\left[{}_{S}\ \left[{}_{S_1} [W]\ [\text{Co. } X]\right]\ \left[{}_{S_2} [Z]\ [\text{Co. } Y]\right]\right]$$

$$\Longrightarrow \left[{}_{S}\ \left[{}_{S_1} [W]\ [\text{Co. } X]\right]\ \left[{}_{S_2} [Z]\ [\text{vä + Co. } Y]\right]\right]$$

If the paired coordinators introduced by the upper part of rule 1a happen to coordinate the constituents of a negative compound sentence, they are replaced by the paired coordinators nä...nä by this rule.

2. $$\left[{}_{S}\ \left[{}_{S_1} [W]\ [\text{häm } X]\right]\ \left[{}_{S_2} [Z]\ [\text{häm } Y]\right]\right]$$

$$\Longrightarrow \left[{}_{S}\ \left[{}_{S_1} [W]\ [\text{nä } X]\right]\ \left[{}_{S_2} [Z]\ [\text{nä } Y]\right]\right]$$

Condition: All conjuncts contain the feature [+negative].

If the coordinated sentences are in the subjunctive mood then the paired coordinators ya...ya are replaced by either the paired coordinators ce...ce, or xah...xah as accomplished by this rule.

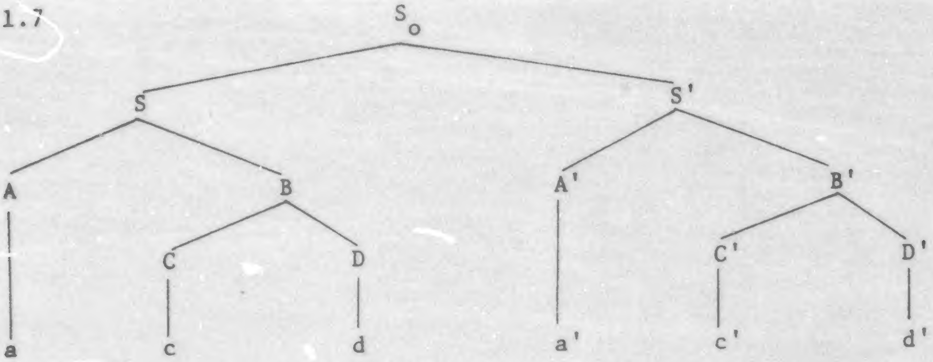
3. $$\left[{}_{S}\ \left[{}_{S_1} [W]\ [\text{ya } X]\right]\ \left[{}_{S_2} [Z]\ [\text{ya } Y]\right]\right]$$

$$\Longrightarrow \left[{}_{S}\ \left[{}_{S_1} [W] \begin{Bmatrix}\text{ce}\\ \text{xah}\end{Bmatrix} [X]\right]\ \left[{}_{S_2} [Z] \begin{Bmatrix}\text{ce}\\ \text{xah}\end{Bmatrix} [Y]\right]\right]$$

Condition: All conjuncts are marked with the feature [-indicative].

A transformation essential for the word order variations in the compound sentences is the conjunct collapsing transformation. According to this rule if at least one constituent in a conjunct is identical with its counterpart in another conjunct, then all similar constituents (i.e., the lowest node dominating all the dissimilar lexical items) in the conjuncts are moved to the right side of their corresponding node in the initial conjunct and the identical constituents are deleted except for one copy. The operation of this rule can be illustrated in this manner.

1.7



If c and c' are not identical, but a and a' and d and d' are identical, attach C' to the right of C. Similarly, if a and a' are identical, but c is not identical with c' and d is not identical with d', attach B' to the right of B. If a is not identical with a', but the other lexical items are identical, adjoin A' to A. Note that the coordinator insertion rule will have attached the coordinator to the node dominating the dissimilar lexical material, so the coordinator will move too. Finally, if only d and d' are identical (a differs from a' and c differs from c') nothing happens (or S and S' are adjoined the result is the same) because the lowest node dominating both a and c is S.

The conjunct collapsing rule is obligatory when the conjuncts are coordinated by means of the single coordinator vä as shown in these examples.

49. mo?älem vä šagerd där kelas
the teacher and the student in the class

hazer bud-änd
present were they

'The teacher and the student were present in the class.'

50. män härf-e šoma vä härf-e u-ra
I word of yours and word of his

qäbul mi-kon-äm
acceptance ind. make I

'I accept your word and I accept his word too.'

51. xäyam monäjem, vä ša?er, vä riyazidan
Khayam astronomer and poet and mathematician

bude-(äst)
been has he

'Khayam has been an astronomer, poet, and mathematician.'

With the paired coordinators, however, the application of conjunct collapsing transformation is optional as witnessed by a and b sentences in examples 52-55.

52a. häm mo?älem (vä) häm šagerd där kelas
also the teacher and also the student in the class

hazer bud-änd
present were they

'Both the teacher and the student were present in the class.'

b. häm mo?älem där kelas hazer bud (vä)
also the teacher in the class present was he and

häm šagerd
also the student

'Both the teacher and the student were present in the class.'

53a. män häm härf-e šoma vä häm härf-e u-ra
I also word of yours and also word of his

qäbul mi-kon-äm
acceptance ind. make I

'I accept your word and his word both.'

b. män häm härf-e šoma-ra qäbul mi-kon-äm (vä)
I also word of yours acceptance ind. make I and

häm härf-e u-ra
also word of his

'I accept your word and his word both.'

54a. xäyam häm monäjem, (vä) häm ša?er, (vä) häm
Khayam also astronomer and also poet and also

riyazidan bude-(äst)
mathematician been has he

'Khayam has been an astronomer, poet, and mathematician.'

b. xäyam häm monäjem bude-(äst), (vä), häm ša?er,
Khayam also astronomer been has and also poet

(vä) häm riyazidan
and also mathematician

'Khayam has been an astronomer, poet, and mathematician.'

55a. ya emruz ya färda in mozu? rošän mi-šev-äd
either today or tomorrow this matter light ind. get it

'Either today or tomorrow this matter will come to light.'

b. ya emruz in mozu? rošän mi-šev-äd ya färda
either today this matter light ind. get it or tommorow

'Either today or tomorrow this matter will come to light.'

The variations in these sentences stem from the fact that in sentences a. the conjunct collapsing transformation has optionally applied and has adjoined the non-identical constituents in the second conjunct to their counterpart in the first conjunct. In sentences b. the conjunct collapsing has not taken place. Instead the obligatory identical constituent deletion has removed the identical constituents from the second conjunct. Thus the word order variation between sentences a and b is the result of the optionality of the conjunct collapsing transformation.

As the conjunct collapsing transformation implies, Persian has no mechanism which would correspond to the so-called respectively device in English which allows the constituents of the conjuncts without identical parts to be collapsed together, as in this example.

56. Mina and Nasrin read a novel and a detective story
respectively.

This sentence is rendered in Persian in the form given below with the deletion of the second verb.

57. mina roman xand vä näsrin dastan-e polisi
Mina novel read she and Nasrin story of detective

'Mina read a novel and Nasrin read a detective story.'

A different surface phenomenon which must be handled by transformation is the person/number agreement between subjects and verbs in Persian. As a comparison between sentences a and b in examples 52-55 indicates, the coordinated subjects (as in sentences a) require a plural verb, but those without coordinated subjects (as in sentences b) require a singular verb. The implementation of correct agreement between subjects and verbs in both sets of sentences is brought forth by a transformation which copies the person and number of the subject into its respective verb. In order to get the desired results the copying process must follow conjunct collapsing rule but precede the identical constituent deletion transformation.

The identical constituent deletion transformation mentioned above operates on all compound sentences which have identical elements and deletes all occurrences of the identical elements except the initial copy. The application of this key transformation that resembles a factoring process is responsible for the diversity of the coordinated members in the surface structure of compound sentences. Since identical constituent deletion is obligatory, its omission results in an ungrammatical string as in example 58a.

58*a. to be-ya ämma to käsi-ra ba xod-ät nä-yavär
you imp. come but you anybody with yourself not bring

b. to be-ya ämma käsi-ra ba xod-ät nä-yavär

'Come, but do not bring anyone with you.'

In compound sentences where the conjuncts consist of coreferential nouns that occur in different positions in the conjuncts (have different grammatical functions), all occurrences of the coreferential nouns except in the initial conjunct are replaced by an appropriate pronoun.

59. mina amäd vä ma ba-u sohbät kärd-im
Mina came she and we with her conversation made we

'Mina came and we talked to her.'

If the verbs in all conjuncts refer to the same subject and they express a successive action, then all the verbs, with the exception of the verb in the final conjunct, can be optionally changed into a gerund (gerund transformation). The gerunds in Persian are formed by adding the suffix _-e_ to the past stem of the verb.

60a. mo?älem varede kelas šod, vä ketab-e
the teacher entered the class got and the book of

xod-ra baz nemud, vä šoru? be tädris kärd
himself open made and began to instruction made

'The teacher entered the class, opened his book, and began to teach.'

b. mo?älem varede kelas šode, vä ketab-e
the teacher entered the class got and the book of

xod-ra baz nemude, vä šoru? be tädris kärd
himself open made and began to instruction made

'The teacher, having entered the class and opened his book, began to teach.'

The addition of subjunctive as well as person/number affixes is another surface phenomenon which must be accounted for by transformation. The introduction of the indicative and subjunctive prefixes is worked out by the subjunctive transformation described fully in Chapter 4, Pages 143-146.

The introduction of the person/number suffixes is implemented by the affix transformation which adds the proper person/number suffixes after past and present stems of the verb.

All these modifications must take place in order to derive a grammatical string. The grammatical string produced by these transformations may be subjected to a few additional modifications such as pronominal subject deletion, quantifier deletion, and the deletion of the single coordinator vä.

These transformations are presented in the form of the directions given below. All of these modifications are obligatory unless stated otherwise and are ordered.

1. Coordinator placement.
    - (a) Attach the coordinator häm...häm or ya...ya at the left of the lowest node of all similar constituents of the conjuncts which dominate non-identical lexical items if the coordinators are marked as [+emphatic] or [+alternative] respectively.
    - (b) Insert any other coordinators into the right conjunct only, before the leftmost constituent which is similar

to a constituent in the left conjunct.

(c) Add the morpheme häm before all verbs except the initial verb if the conjuncts are coordinated by means of vä and any constituent separates the verbs of the coordinated sentences.

(d) Optionally add the coordinator vä before the second member of any paired coordinator.

2. Coordinator change.

(a) Change the paired coordinators häm...häm into nä...nä if the conjuncts are marked as [+negative].

(b) Change the paired coordinator ya...ya into ce...ce or xah...xah if the conjuncts are marked as [-indicative].

3. Conjunct collapsing.

If, in each of the S's coordinated by häm...häm, ya...ya, or vä at least one constituent is identical with its counterpart in another S, then adjoin the similar constituents by moving the lowest node in the right-hand sentence which dominates all the non-identical lexical items and attaching it to the right side of its corresponding node in the next S to the left. This rule is optional with paired coordinators.

4. Agreement transformation.

In any deep structure sentence copy the person of the subject noun phrase into the verb. If the subject noun phrase consists of animate plural or coordinated nouns mark the verb [-singular]. Otherwise mark the verb [+singular].

5. Identical constituent deletion.

   If two or more constituents occurring in different conjuncts are identical, retain the initial copy and delete all other occurrences of the identical constituents. For purposes of this rule, person and number features in the verbs are ignored in determining identity.

6. Pronominalization.

   If two or more nouns occurring in different conjuncts are identical and coreferential but have different grammatical functions (are dominated by dissimilar nodes) within the conjuncts, replace all occurrences of the coreferential nouns except the initial copy (forward pronominalization) with an appropriate personal pronoun.[2]

7. Gerund transformation (optional).

   If the coordinated members of a compound sentence are all verb phrases expressing a successive action, change all the verb stems except the final verb into a gerundive form by adding *e* after the past stem.

---

[2] The nominative personal pronouns in Persian are:

Singular			Plural		
I	II	III	I	II	III
män	to(šoma)	u	ma	šoma	anha(išan)

In the accusative case these pronouns are accompanied by the postposition *-ra*. In oblique cases they are accompanied by the prepositions *be* 'to,' *ba* 'with,' *äz* 'of,' etc.

8. Subjunctive transformation.

Add the prefix *be-* before all simple non-negative present stems, change the past stems into the past participle (past stem + e), and add the present subjunctive form of the verb *budän* 'be'(i.e., baš) if the verb stems are marked as [-indicative]. Otherwise add *mi-* before all present stems except the stems *häst* 'is' and *dar* 'have'.

9. Affix transformation.

Attach the proper suffixes after the past and present stems of the verbs in accordance with the person and/or number specifications registered in the main verb of the sentence.[3]

10. Optional subject pronoun deletion.

If the subject of a sentence is a definite pronoun this pronoun can be optionally deleted provided it occurs in initial position in a sentence or follows a time adverbial.

11. Optional quantifier deletion.

If the coordinated members of a compound sentence are made of a sequence of noun phrases connected by the single coordinator *vä* and followed by the quantifiers *härdo*, *häme*,

---

[3] These suffixes are:

	past stem			present stem		
	I	II	III	I	II	III
sing.	äm	i	0	äm	i	äd
pl.	im	id	änd	im	id	änd

härkodam and *hickodam*, these quantifiers can be optionally deleted.

12. Optional vä deletion.

If the coordinator *vä* connects a series of noun phrases of the same rank in subject and object positions within a compound sentence, all copies of this coordinator except the final copy may be deleted.

1.7 Derivation

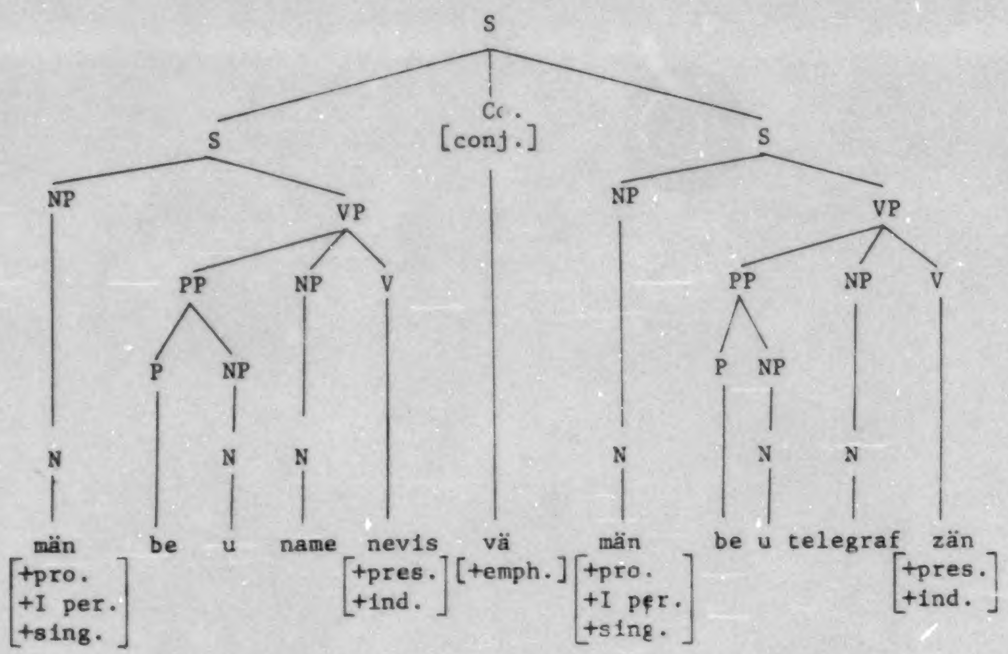
As an illustration we will present the deep structures of three coordinated constructions and trace the derivation of each construction. The sample derivations given below include compound sentences with these differences.

In the first illustration a compound sentence in which the subjects in the two conjuncts are the same but the predicates differ is given.

In the second diagram we present a compound sentence in which the predicates are identical but the subjects differ.

In the third presentation both subjects and predicates are identical in the two conjuncts but the adverbs are different.

1.8


S
S
Co.
[conj.]
S
NP
VP
PP
NP
V
P
NP
N
N
N
NP
VP
PP
NP
V
P
NP
N
N
N
män
be
u
name
nevis
vä
män
be
u
telegraf
zän
+pro.
+I per.
+sing.
+pres.
+ind.
+emph.
+pro.
+I per.
+sing.
+pres.
+ind.

BASE

män $\begin{bmatrix}+\text{pro.}\\+\text{I per.}\\+\text{sing.}\end{bmatrix}$ be-u name nevis, $\begin{bmatrix}+\text{pres.}\\+\text{ind.}\end{bmatrix}$ vä $[+\text{emph.}]$ män $\begin{bmatrix}+\text{pro.}\\+\text{I per.}\\+\text{sing.}\end{bmatrix}$ be-u telegraf zän $\begin{bmatrix}+\text{pres.}\\+\text{ind.}\end{bmatrix}$

Coordinator placement (a)

män $\begin{bmatrix}+\text{pro.}\\+\text{I per.}\\+\text{sing.}\end{bmatrix}$ be-u häm name nevis, $\begin{bmatrix}+\text{pres.}\\+\text{ind.}\end{bmatrix}$ män $\begin{bmatrix}+\text{pro.}\\+\text{I per.}\\+\text{sing.}\end{bmatrix}$ be-u häm telegraf zän $\begin{bmatrix}+\text{pres.}\\+\text{ind.}\end{bmatrix}$

Agreement transformation

män $\begin{bmatrix}+\text{pro.}\\+\text{I per.}\\+\text{sing.}\end{bmatrix}$ be-u häm name nevis, $\begin{bmatrix}+\text{pres.}\\+\text{ind.}\\+\text{I per.}\\+\text{sing.}\end{bmatrix}$ män $\begin{bmatrix}+\text{pro.}\\+\text{I per.}\\+\text{sing.}\end{bmatrix}$ be-u häm telegraf zän $\begin{bmatrix}+\text{pres.}\\+\text{ind.}\\+\text{I per.}\\+\text{sing.}\end{bmatrix}$

Identical constituent deletion

$$\underset{\begin{bmatrix}\text{+pro.}\\ \text{+I per.}\\ \text{+sing.}\end{bmatrix}}{\text{män}}\quad \text{be-u häm name}\quad \underset{\begin{bmatrix}\text{+pres.}\\ \text{+ind.}\\ \text{+I per.}\\ \text{+sing.}\end{bmatrix}}{\text{nevis,}}\quad \text{häm}\quad \text{telegraf}\quad \underset{\begin{bmatrix}\text{+pres.}\\ \text{+ind.}\\ \text{+I per.}\\ \text{+sing.}\end{bmatrix}}{\text{zän}}$$

Subjunctive transformation

$$\underset{\begin{bmatrix}\text{+pro.}\\ \text{+I per.}\\ \text{+sing.}\end{bmatrix}}{\text{män}}\quad \text{be-u häm name}\quad \text{mi + }\underset{\begin{bmatrix}\text{+pres.}\\ \text{+I per.}\\ \text{+sing.}\end{bmatrix}}{\text{nevis,}}\quad \text{häm}\quad \text{telegraf}\quad \text{mi + }\underset{\begin{bmatrix}\text{+pres.}\\ \text{+I per.}\\ \text{+sing.}\end{bmatrix}}{\text{zän}}$$

Affix transformation

$$\underset{\begin{bmatrix}\text{+pro.}\\ \text{+I per.}\\ \text{+sing.}\end{bmatrix}}{\text{män}}\quad \text{be-u häm name mi + }\underset{\begin{bmatrix}\text{+pres.}\\ \text{+I per.}\\ \text{+sing.}\end{bmatrix}}{\text{nevis}}\text{ + äm, häm telegraf mi + }\underset{\begin{bmatrix}\text{+pres.}\\ \text{+I per.}\\ \text{+sing.}\end{bmatrix}}{\text{zän}}\text{ + äm}$$

Subject pronoun deletion

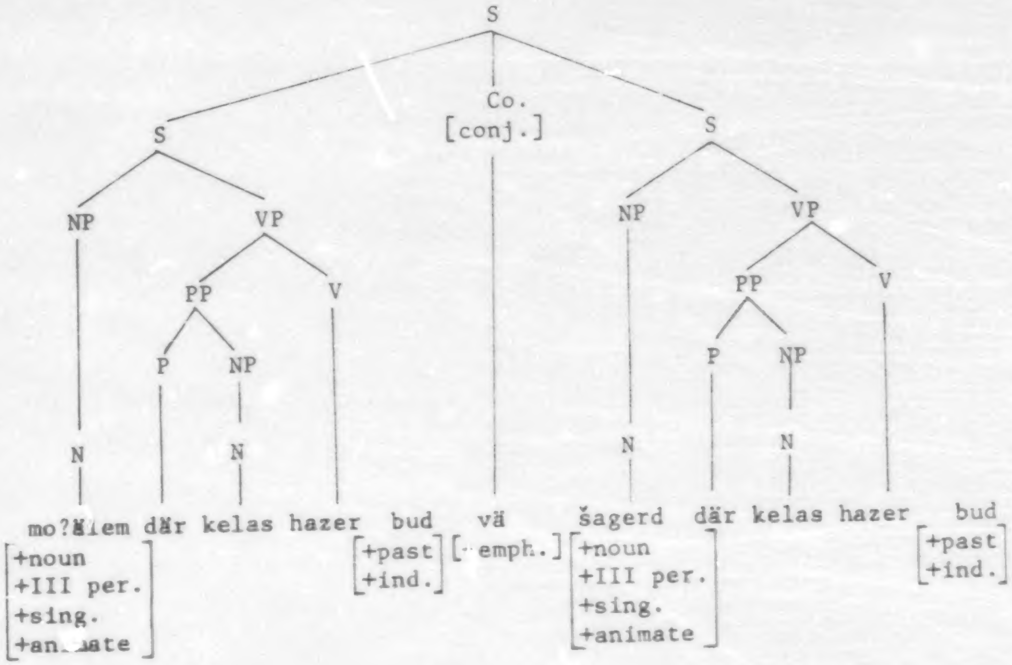
$$\text{be-u}\quad \text{häm}\quad \text{name}\quad \text{mi + }\underset{\begin{bmatrix}\text{+pres.}\\ \text{+I per.}\\ \text{+sing.}\end{bmatrix}}{\text{nevis}}\text{ + äm,}\quad \text{häm}\quad \text{telegraf}\quad \text{mi + }\underset{\begin{bmatrix}\text{+pres.}\\ \text{+I per.}\\ \text{+sing.}\end{bmatrix}}{\text{zän}}\text{ + äm}$$

Morphophonemics

be-u häm name minevisäm, häm telegraf mizänäm
to him also letter write I also telegram strike I

'I will write him a letter and send him a telegram too.'

1.9


S
Co.
[conj.]
S
S
NP
VP
NP
VP
PP
V
PP
V
P
NP
P
NP
N
N
N
N
mo?älem där kelas hazer bud vä šagerd där kelas hazer bud
+noun
+III per.
+sing.
+animate
+past
+ind.
-emph.
+noun
+III per.
+sing.
+animate
+past
+ind.

BASE

$$\underset{\begin{bmatrix}+\text{noun}\\+\text{III per.}\\+\text{sing.}\\+\text{animate}\end{bmatrix}}{\text{mo?älem}}\ \text{där kelas hazer}\ \underset{\begin{bmatrix}+\text{past}\\+\text{ind.}\end{bmatrix}}{\text{bud}}\ \text{vä}\ \underset{\begin{bmatrix}+\text{noun}\\+\text{III per.}\\+\text{sing.}\\+\text{animate}\end{bmatrix}}{\text{šagerd}}\ \text{där kelas hazer}\ \underset{\begin{bmatrix}+\text{past}\\+\text{ind.}\end{bmatrix}}{\text{bud}}$$

Coordination placement (b)

$$\underset{\begin{bmatrix}+\text{noun}\\+\text{III per.}\\+\text{sing.}\\+\text{animate}\end{bmatrix}}{\text{mo?älem}}\ \text{där kelas hazer}\ \underset{\begin{bmatrix}+\text{past}\\+\text{ind.}\end{bmatrix}}{\text{bud}}\ \text{vä}\ \underset{\begin{bmatrix}+\text{noun}\\+\text{III per.}\\+\text{sing.}\\+\text{animate}\end{bmatrix}}{\text{šagerd}}\ \text{där kelas hazer}\ \underset{\begin{bmatrix}+\text{past}\\+\text{ind.}\end{bmatrix}}{\text{bud}}$$

Conjunct collapsing

$$\underset{\begin{bmatrix}+\text{noun}\\+\text{III per.}\\+\text{sing.}\\+\text{animate}\end{bmatrix}}{\text{mo?älem}}\ \text{vä}\ \underset{\begin{bmatrix}+\text{noun}\\+\text{III per.}\\+\text{sing.}\\+\text{animate}\end{bmatrix}}{\text{šagerd}}\ \text{där kelas hazer}\ \underset{\begin{bmatrix}+\text{past}\\+\text{ind.}\end{bmatrix}}{\text{bud}}\ \text{där kelas hazer}\ \underset{\begin{bmatrix}+\text{past}\\+\text{ind.}\end{bmatrix}}{\text{bud}}$$

Agreement transformation

$$\underset{\begin{bmatrix}\text{+noun}\\ \text{+III per.}\\ \text{+sing.}\\ \text{+animate}\end{bmatrix}}{\text{mo?älem}}\ \text{vä}\ \underset{\begin{bmatrix}\text{+noun}\\ \text{+III per.}\\ \text{+sing.}\\ \text{+animate}\end{bmatrix}}{\text{šagerd}}\ \text{där kelas hazer}\ \underset{\begin{bmatrix}\text{+past}\\ \text{+ind.}\\ \text{+III per.}\\ \text{-sing.}\end{bmatrix}}{\text{bud,}}\ \text{där kelas hazer}\ \underset{\begin{bmatrix}\text{+past}\\ \text{+ind.}\end{bmatrix}}{\text{bud}}$$

Identical constituent deletion

$$\underset{\begin{bmatrix}\text{+noun}\\ \text{+III per.}\\ \text{+sing.}\\ \text{+animate}\end{bmatrix}}{\text{mo?älem}}\quad \text{vä}\quad \underset{\begin{bmatrix}\text{+noun}\\ \text{+III per.}\\ \text{+sing.}\\ \text{+animate}\end{bmatrix}}{\text{šagerd}}\quad \text{där}\quad \text{kelas}\quad \text{hazer}\quad \underset{\begin{bmatrix}\text{+past}\\ \text{+ind.}\\ \text{+III per.}\\ \text{-sing.}\end{bmatrix}}{\text{bud}}$$

Subjunctive transformation

$$\underset{\begin{bmatrix}\text{+noun}\\ \text{+III per.}\\ \text{+sing.}\\ \text{+animate}\end{bmatrix}}{\text{mo?älem}}\quad \text{vä}\quad \underset{\begin{bmatrix}\text{+noun}\\ \text{+III per.}\\ \text{+sing.}\\ \text{+animate}\end{bmatrix}}{\text{šagerd}}\quad \text{där}\quad \text{kelas}\quad \text{hazer}\quad \underset{\begin{bmatrix}\text{+past}\\ \text{+III per.}\\ \text{-sing.}\end{bmatrix}}{\text{bud}}$$

Affix transformation

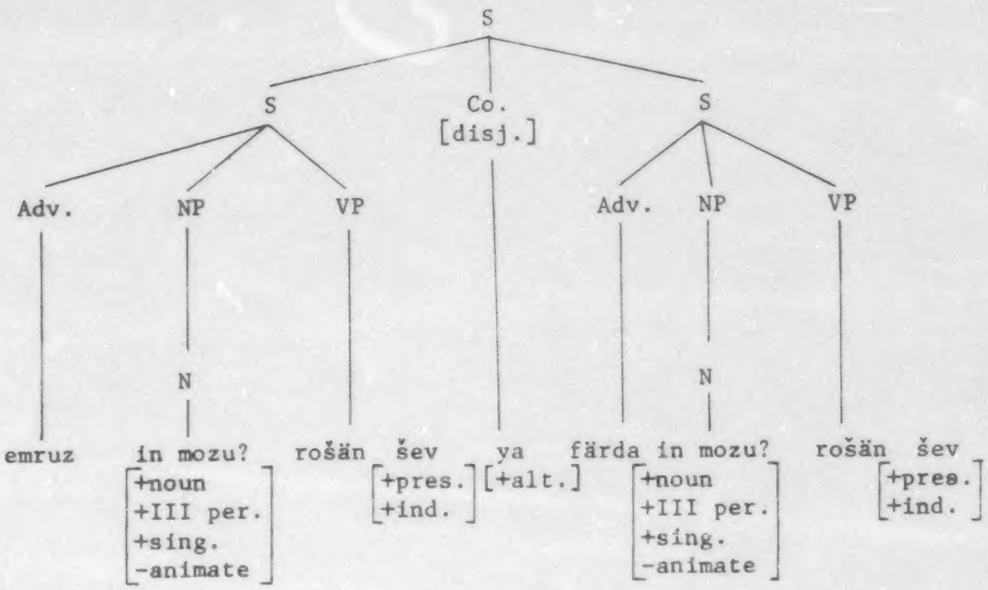
$$\underset{\begin{bmatrix}\text{+past}\\ \text{+III per.}\\ \text{+sing.}\\ \text{+animate}\end{bmatrix}}{\text{mo?älem}}\quad \text{vä}\quad \underset{\begin{bmatrix}\text{+noun}\\ \text{+III per.}\\ \text{+sing.}\\ \text{+animate}\end{bmatrix}}{\text{šagerd}}\quad \text{där}\quad \text{kelas}\quad \text{hazer}\quad \underset{\begin{bmatrix}\text{+past}\\ \text{+III per.}\\ \text{-sing.}\end{bmatrix}}{\text{bud + änd}}$$

Morphophonemics

mo?älem	vä	šagerd	där	kelas	hazer	budänd
the teacher	and	the student	in	class	present	were they

'The teacher and the student were present in the class.'

1.10


S
S
Co.
[disj.]
S
Adv.
NP
VP
Adv.
NP
VP
N
N
emruz
in mozu?
rošän
šev
ya
färda
in mozu?
rošän
šev
+noun
+III per.
+sing.
-animate
+pres.
+ind.
+alt.
+noun
+III per.
+sing.
-animate
+pres.
+ind.

BASE

emruz	in mozu?	rošän	šev,	ya	färda	in mozu?	rošän	šev
	+noun +III per. +sing. -animate		+pres. +ind.	+alt.		+noun +III per. +sing. -animate		+pres. +ind.

Coordinator placement (b)

ya emruz in	mozu?	rošän	šev	ya färda in	mozu?	rošän	šev
	+noun +III per. +sing. -animate		+pres. +ind.		+noun +III per. +sing. -animate		+pres. +ind.

Conjunct collapsing

ya emruz ya färda in	mozu?	rošän	šev	in	mozu?	rošän	šev
	+noun +III per. +sing. -animate		+pres. +ind.		+noun +III per. +sing. -animate		+pres. +ind.

Agreement transformation

ya emruz ya färda in	mozu?	rošän	šev	in	mozu?	rošän	šev
	+noun +III per. +sing. -animate		+pres. +ind. +III per. +sing.		+noun +III per. +sing. -animate		+pres. +ind. +III per. +sing.

Identical constituent deletion

$$\text{ya}\quad\text{emruz}\quad\text{ya}\quad\text{färda}\quad\text{in}\quad\underset{\begin{bmatrix}+\text{noun}\\ +\text{III per.}\\ +\text{sing.}\\ -\text{animate}\end{bmatrix}}{\text{mozu?}}\quad\text{rošän}\quad\underset{\begin{bmatrix}+\text{pres.}\\ +\text{ind.}\\ +\text{III per.}\\ +\text{sing.}\end{bmatrix}}{\text{šev}}$$

Subjunctive transformation

$$\text{ya}\quad\text{emruz}\quad\text{ya}\quad\text{färda}\quad\text{in}\quad\underset{\begin{bmatrix}+\text{noun}\\ +\text{III per.}\\ +\text{sing.}\\ -\text{animate}\end{bmatrix}}{\text{mozu?}}\quad\text{rošän}\quad\underset{\begin{bmatrix}+\text{pres.}\\ +\text{III per.}\\ +\text{sing.}\end{bmatrix}}{\text{mi + šev}}$$

Affix transformation

$$\text{ya}\quad\text{emruz}\quad\text{ya}\quad\text{färda}\quad\text{in}\quad\underset{\begin{bmatrix}+\text{noun}\\ +\text{III per.}\\ +\text{sing.}\\ -\text{animate}\end{bmatrix}}{\text{mozu?}}\quad\text{rošän}\quad\underset{\begin{bmatrix}+\text{pres.}\\ +\text{III per.}\\ +\text{sing.}\end{bmatrix}}{\text{mi + šev + äd}}$$

Morphophonemics

ya	emruz	ya	färda	in	mozu?	rošän	miševäd
either	today	or	tomorrow	this	matter	light	get it

'Either today or tomorrow this matter will come to light.'

If the conjunct collapsing rule had not applied to this structure the semantically equivalent version of this sentence, as in example 55b, would result.

CHAPTER 2

RELATIVE CLAUSES

2.1 Definition

A relative clause in Persian can be functionally defined as a sentence which modifies a noun (antecedent) within another sentence. Formally, a relative clause is introduced after its antecedent by means of the universal connector ke which roughly corresponds to the English relative morpheme that. Unlike English, a relative clause in Persian may either immediately follow its antecedent or occur outside the domain of the main sentence; in the majority of cases, however, a relative clause directly follows its antecedent.

There are no deep structure relative clauses. Instead, all surface relative clauses are represented in the deep structure as full sentences joined to the surface main clause by a coordinator, specifically, vä. The surface structure relative clause will be generated only if the coordinated sentences each contain a coreferential noun, that is one noun in each sentence is lexically identical with one in the other sentence, and both refer to exactly the same thing. This represents a weakening of the identity condition needed for conjunct collapsing in the previous chapter, under which the nouns not only had to be coreferential but also had to have similar (parallel) grammatical functions in the two sentences.[1]

---

[1] The notion of coreferentiality in this analysis means lexical but not necessarily inflectional identity. That is, for the purpose of testing the coreferentiality of two nouns the features [± definite] and [± unique] are not relevant.

The coreferentiality condition, though necessary, is not sufficient for the implementation of relativization. In order to undergo relativization the conjuncts must be non-emphatic conjunctive clauses and their coreferential nouns must meet special feature specifications to be discussed as we proceed in this analysis.

In theory the matrix sentence and the relative clause are equal, and it should therefore be possible to relativize either clause and embed it in the other one, if the conditions are all met. This holds true for this analysis, but for the sake of ease in rule writing, we will adopt the arbitrary convention of always treating the left of the two clauses as the matrix sentence, the right one as the relative clause. The opposite effect can be achieved merely by drawing the initial coordinated pair of sentences in the opposite sequence.

In other languages, among them English, relative pronouns not only introduce a relative clause, but also replace the subjects and objects of the relative clause when these nouns are coreferential with the antecedent. In Persian, however, this second function is performed by means of personal pronouns. That is, any noun in the relative clause which is coreferential with the antecedent is replaced by an appropriate personal pronoun. These pronouns are deleted if they function as the subject or the direct object of the relative clause. A personal pronoun functioning as the indirect object within a relative clause, however, may never be deleted. The addition of the morpheme ke, the replacement of the subject and object noun phrases in the relative clause by personal pronouns, and their subsequent deletion under specific conditions are common characteristics of all relative clauses.

2.2 Types of Relative Clauses

A relative clause either modifies an antecedent which refers to a class of persons or things, i.e., has multiple referents, or an antecedent which refers to a specific person or thing, i.e., has a unique referent. This distinction is parallel to the traditional distinction between attributive (restrictive) and appositive (non-restrictive) relative clauses. The difference between an attributive and an appositive relative clause is demonstrated in these examples respectively.

1. moälef-i ke in säbk-ra extiyar kärde (äst),
the author that this style chosen has (he)

nevisände-ye xubi äst
writer of good is (he)

'The author who has chosen this style is a good writer.'

2. moälef, ke in säbk-ra extiyar kärde (äst),
the author that this style chosen has (he)

nevisände-ye xubi äst
writer of good is (he)

'The author, who has chosen this style, is a good writer.'

Grammarians have often drawn attention to this difference by stating that an attributive relative clause 'does identify a particular member or sub-class of a larger class which its antecedent indicates. . .' (Sledd 1959:230). But an appositive relative clause 'does not identify a particular member or a sub-class of the larger class indicated by its antecedent but simply adds further information about an already identified class or individual.' (Ibid.)

Below are a few samples for illustrating the structural pattern of the attributive and appositive relative clauses in Persian.

Attributive Relative Clauses

3. (an) märd-i ke amäd dust-e män äst
the man that came he the friend-par. I is he

'The man who came is my friend.'

4. (an) märd-i-(ra)ke did-i dust-e män äst
the man that saw you friend-par. I is he

'The man that you saw is my friend.'

5. (an) ketab-i ke bäray-äm ävärd-id gom-šod
the book that for me brought you was lost it

'The book that you brought for me was lost.'

6. (an) märd-i ke ketab-ra be-u dad-i dust-e
the man that the book to him gave you friend-par.

män äst
I is he

'The man who you gave the book to is my friend.'

7. (an) xane-i ke ma dăr an sokna dar-im bozorg äst
the house that we in it live we large is it

'The house we live in is large.'

8. (an) märd-i ke ketab-äš-ra gom-kärd dust-e män äst
the man that book his lost he friend-par. I is he

'The man who lost his book is my friend.'

9. (an) qäläm-i ke ba an name-ra nevešt-äm šekäst
the pen that with it the letter wrote I broke it

'The pen with which I wrote the letter broke.'

An attributive relative clause can also occur outside of its matrix sentence. In this type of construction the attributive clause is separated from the rest of the sentence by a comma intonation (short pause) as in the following examples.[2]

---

[2] Indefinite nouns in Persian are followed by the indefinite

10. (yek) ketab-i xärid-äm, ke jeld nä-dašt
a book bought I that cover not had it

'I bought a book which did not have a cover.'

11. (yek) märd-i väred-šod, ke män u-ra nä-mišenaxt-äm
a man came in that I him not knew I

'A man whom I did not know came in.'

12. (yek) šähr-i anja häst, ke hala xärab äst
a city there is it that now ruined is it

'There is a city there that is in ruins now.'

Each of these sentences has a perfectly grammatical paraphrase with vä instead of ke. These paraphrases are derived using the rules in Chapter One.

Appositive Relative Clauses

13. ämazon, ke äz berezil mi-gozär-äd,
the Amazon, that through Brazil passes it

bozorg-tärin rud-e ?aläm äst
the largest river-par. world is it

'The Amazon, which passes through Brazil, is the largest river in the world.'

14. giläk, ke märdom-e gilan vä mazändäran
Gilak, that the people-par. Gilan and Mazandaran

ba-an soxän miguy-änd, yeki äz lähje-ha-ye
with it speak they one of the dialects-par.

zäban-e farsi äst
language-par. Persian is it

'Gilak, which is spoken by the people of Gilan and Mazandaran, is one of the dialects of Persian.'

---

article i, and may be preceded by the morpheme yek 'one, a, an'. In the examples given here the parentheses indicate that this noun can either occur with or without yek.

Definite nouns in Persian are either unmarked or marked with the definite determiner an 'that, the' which precedes a noun. The definite determiner an must not be confused with the third person neuter pronoun an which corresponds to the pronoun it in English.

15. esfähan, ke där ?äsr-e säfäviye payetäxt
Isfahan, that in era-par. Safavids the capital

bude, hänuz häm ziba-tärin šähr-e iran
had been it still too the most beautiful city-par. Iran

äst
is it

'Isfahan, which had been the capital in the era of the
Safavids, is still the most beautiful city in Iran.'

16. šäträn j, ke zaherän äz hend be-iran amäd-e,
chess, that apparently from India to Iran has come it,

bazi-ye besyar qädimi äst
game-par. very old is it

'Chess, which apparently has come from India to Iran,
is a very old game.'

17. bäradär-e män, ke taze äz emrika amäde
brother-par. I that recently from American has come he

där širaz eqamät dar-äd
in Shiraz residence has he

'My brother, who has recently come from America,
resides in Shiraz.'

18. xoršid, ke melyunha mil ba ma fasele dar-äd
the sun, that millions miles with us distance has it

mänbä?-e enerži-ye zämin äst
the source-par. energy-par. earth is it

'The sun,which is millions of miles away from us, is
the source of the energy of the earth.'

19. šahname, ke šahkar-e ädäbiyat-e farsi
Shahnama, that masterpiece-par. literature-par. Persian

äst, där modät-e si sal nevešte šode
is it within period-par. thirty year compiled got it

'Shahnama, which is the masterpiece of Persian literature,
was compiled within a thirty year period.'

The attributive relative clauses differ from appositive relative clauses, as shown by these examples, in several ways as summarized below.

An attributive, but not an appositive, relative clause occurs with an antecedent marked with the enclitic particle *i* known traditionally as the '*i* of indication' (ya-ye ešarät) or relative *i* (examples 1, 3-9).[3]

An attributive, but not an appositive, relative clause and its antecedent form a syntactic unit within which no major intonation break occurs (examples 1, 3-9).

But an appositive relative clause (as in examples 2, 13-19), is always set apart from its antecedent by comma intonation.

An attributive relative clause may modify either a definite noun (examples 3-9) or an indefinite noun (examples 10-12). But an appositive relative clause always modifies a definite noun.

An attributive relative clause occurs immediately after its antecedent in case it is [+definite], but it occurs after the verb of the main sentence if its antecedent is [-definite]. An appositive relative clause directly follows its antecedent.

An attributive, but not an appositive, relative clause may modify one of the personal pronouns *anha* 'they', or *šomaha* 'you' which indicate multiple referents. Since the formation of these relative constructions is not different in any significant respect from the attributive relative clauses with a definite antecedent, no separate discussion of these relative constructions is necessary. The following sentences illustrate the surface forms of these constructions.

---

[3] The relative particle *i* is a reflex of the Pahlavi *i* (iy), but the indefinite article *i*, which we encountered above, (ya-ye näkere) is a reflex of the Middle Persian *e*, *ev* from Old Persian *aiva*. For information see Lambton (1961:124-28).

20. anha-i ke inja bud-änd räft-änd
they that here were they went they

'those who were here went away'

21. šomaha-i ke inja bud-id ci did-id
you that here were you what saw you

'those of you who were here, what did you see?'

Persian has another set of constructions which are superficially similar to attributive relative clauses and in which the head noun is either a generic noun or an indefinite pronoun. In both instances the head noun is accompanied by the distributive determiner här 'any' as in the following examples.

22. här šagerd-i ke därs be-xan-äd qäbul mi-šev-äd
any student that lesson read he pass ind. get he

'any student who studies will pass the test'

23. här ki ke mi-ay-äd zud be-yay-äd
any one that ind. come he soon imp. come he

'whoever comes must be quick'

24. här ci ke did-i bäray-äm be-gu
any thing that saw you for me imp. say

'tell me whatever you saw'

25. här ja-i ke räft-äm šoma anja bud-i
anywhere that went I you there were you

'wherever I went you were there'

26. här växt ke amäd-id xub äst
any time that come you good is it

'whenever you come is good'

In spite of their surface resemblance to attributive relative clauses, these constructions do not fall into the pattern of relative clauses discussed here. It has been recently proposed that these constructions are probably formed through the reduction of conditional clauses with 'if'.[4] The parallel characteristics of these two constructions seem to indicate that such a proposal is plausible. But since the status of the conditional clauses is not well established at present, the description of these constructions is excluded from this study.

In Persian, as in many other languages, the relative clause occurs outside of the matrix sentence if the matrix sentence contains a nominal predicate.

27. in häman šäxs äst ke ketab-ra bord
this the same person is he that the book took he

'This is the person who took the book.'

Although no explanation of these constructions is provided here, it is worth noting that unlike other relative clauses, the verb in this type of relative clause may or may not have person/number agreement with the antecedent as shown in the sentences below.

28. to häman šäxs häst-i ke ketab-ra bord
you the same person are you that the book took he

'You are the same person who took the book.'

29. to häman šäxs häst-i ke ketab-ra bord-i
you the same person are you that the book took you

'You are the same person who took the book.'

Thus far we have discussed the relative constructions which consist of a matrix sentence and a relative clause only. But in Persian the antecedent in a matrix sentence might be modified by several clauses. If an antecedent is modified with more than one clause, then the relative construction might take one of the following forms.

---

[4] For a discussion of this subject see Stockwell, et al. (1973:428-32).

1. If all clauses contain a non-connecting (full) verb, then they are conjoined to each other by the coordinator vä and then the whole construction is linked to the antecedent by means of the connective morpheme ke as in the examples below.

30. märd-i ke inja amäd vä ba šoma
the man who here came he and with you

sohbät kärd dust-e män äst
conversation made he friend of I is he

'The man who came here and spoke with you is my friend.'

31. ketab-i xärid-äm ke jeld nä-däšt vä
a book bought I that cover not had it and

xeili häm kohne bud
very too old was it

'I bought a book which was very old and did not have a cover.'

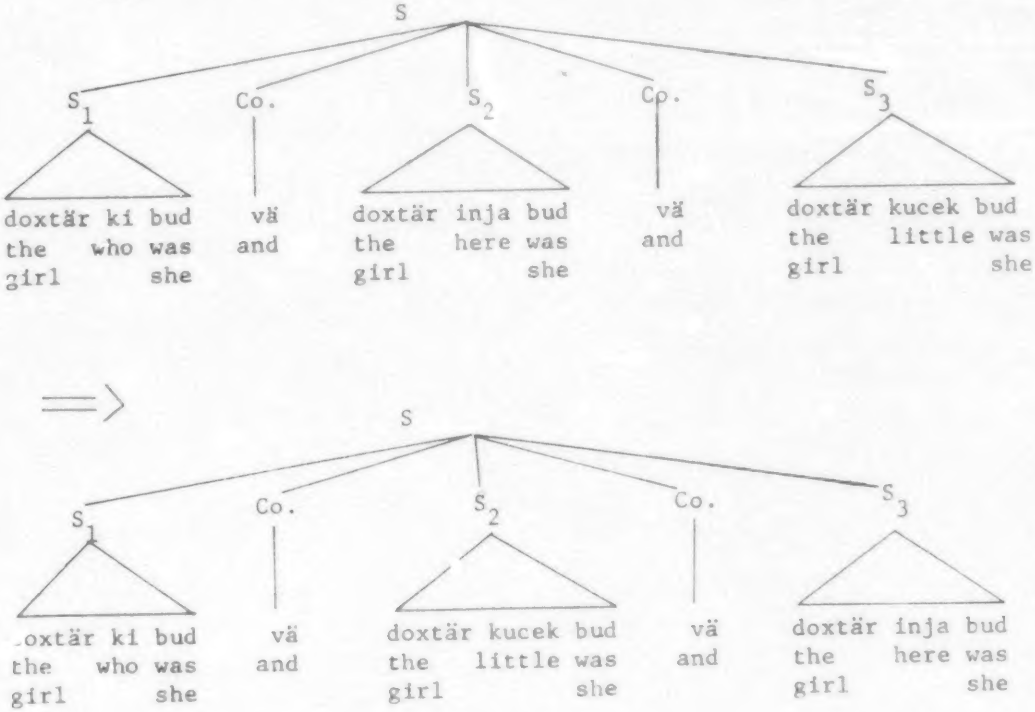
2. If the modifying clauses contain both non-connecting and connecting (copula or have) verbs, then the relative clause containing a connecting verb is moved to the immediate right of the matrix sentence, transformed to an ezafe construction, and relativization occurs between the matrix sentence and the next relative clause containing a non-connecting verb.

32. doxtär-e kucek-i ke inja bud ki bud
the girl of little that here was she who was she

'Who was the little girl who was here?'

Apparently in Persian the connecting verbs are subject to a scrambling transformation which re-arranges the position of the conjoined clauses before relativization takes place. This scrambling process is illustrated in this tree diagram.[5]

2.1


S
S1
Co.
S2
Co.
S3
doxtär ki bud
the girl who was she
vä
and
doxtär inja bud
the girl here was she
vä
and
doxtär kucek bud
the girl little was she
==>
S
S1
Co.
S2
Co.
S3
doxtär ki bud
the girl who was she
vä
and
doxtär kucek bud
the girl little was she
vä
and
doxtär inja bud
the girl here was she

2.3 The Deep Structure of the Relative Clause

The formal difference between an attributive and an appositive relative clause, and especially the contrast in their intonation patterns, has motivated most transformationalists to propose distinct base structures for attributive and appositive relative clauses. As stated in the introduction to this description, most transformationalists to date propose to derive an appositive relative clause from a structure in which the relative clause and the matrix sentence occur as conjuncts within a deep structure coordinated sentence. A transformation, then, moves the relative clause inside the matrix sentence. This proposal is warranted by the observation that an appositive relative clause and its matrix sentence can easily be transformed into a surface conjoined sentence (entailment). An attributive relative clause, on the other hand, is assumed to be nested somewhere inside its matrix sentence. The motivation for this latter assumption is that the difference in the intonational pattern of appositive and attributive relative clauses is automatically accounted for. But the exact place and the constituent which dominates an attributive relative clause is not agreed upon. In one analysis the attributive relative clause is embedded in the determiner of the matrix sentence (art.-S analysis) and is generated by these rules.

---

[5] The verb budän 'be' in Persian is used as the copula (connecting or linking verb), as an auxiliary verb in forming perfective tenses, and as the existential verb (non-connecting or full verb). The verb daštän 'have' is used either as an auxiliary verb in forming durative tenses or as a connecting verb expressing possession in its broadest sense.

A. 1. S ⟶ NP VP
   2. NP ⟶ Det. N
   3. Det. ⟶ art. S

In another analysis the attributive relative clause is nested in a noun phrase in the matrix sentence (NP-S analysis) and is generated by these rules.

B. 1. S ⟶ NP VP
   2. NP ⟶ NP S

In a third analysis the attributive relative clause is assigned to an arbitrary constituent between an NP and an N (nom.-S analysis) as presented by these rules.

C. 1. S ⟶ NP VP
   2. NP ⟶ Det. nominal
   3. nominal ⟶ nominal S
   4. nominal ⟶ N

The rationale for the introduction of an otherwise unmotivated constituent in the deep structure in the third analysis is to prevent the formation of stacked relative clauses which are allowed under art-S and NP-S analyses.

Without further scrutiny of the motivations behind these three proposals and the difficulties inherent in each analysis, we propose that the analysis of appositive relative clauses can be extended to all relative clauses for the following reasons.

An attributive relative clause, like an appositive relative clause, can be paraphrased by a conjoined sentence.

As in the case of appositive relative clauses, there is no evidence against deriving an attributive relative clause from a conjoined sentence.

Both appositive and attributive relative clauses are subject to a common set of transformations and hence must originate from highly similar underlying structures.

The derivation of both appositive and attributive relative clauses from a conjoined sentence results in the setting up of a simple deep structure component for this language.

The derivation of both appositive and attributive relative clauses from a common source reflects the distinction between a subordinated clause, which functions as a constituent within its matrix sentence, and a relative clause which has no grammatical function within its matrix sentence but rather modifies a constituent.

The difference between an attributive and an appositive relative clause is predictable from the feature specifications in their antecedents.

More specifically, this analysis allows the derivation of the relative clauses in Persian which do not immediately follow their antecedent, but occur outside their matrix sentence (examples 10-12).

It also blocks the generation of the stacked relative clauses not permissible in Persian, but allows the derivation of multiple relative clauses (examples 30-32).

Under this proposal all relative clauses in Persian are generated by this phrase structure rule.

1. $S \longrightarrow S\ (Co.\ S)^n \quad n \geq 1$

Relativization takes place under the following conditions.

a. If more than one clause follows the matrix clause, then all clauses which contain the copula *budän* 'be' or *daštän* 'have' are moved to the right of the matrix sentence before relativization takes place.

b. Relativization occurs only between the leftmost clause (matrix sentence) and the clause immediately adjacent to it.

c. Relativization occurs only once at a single level of the grammatical hierarchy. That is, rule 1 does not apply to its own output.

d. The coordinator is marked as [conjunctive] and [-emphatic].

e. One noun in each clause is coreferential with a noun in the other clause.

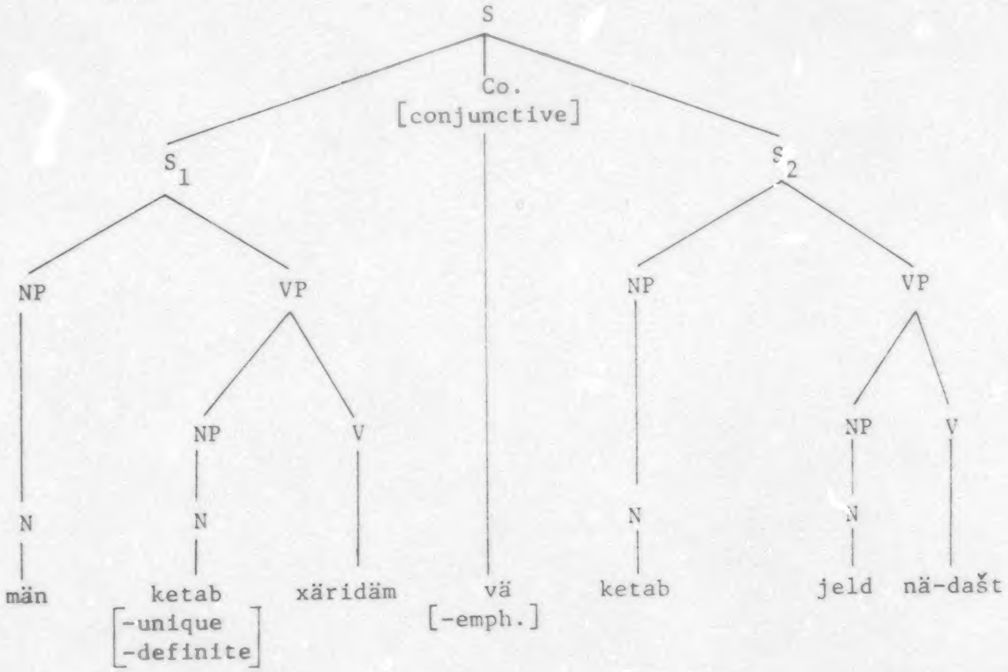
f. The left-hand coreferential noun is marked either as [+definite] or [-definite].

g. If the coreferential noun is marked as [+definite], then it is either [+unique] or [-unique].

h. If the left-hand noun is [+definite] relativization is obligatory. If marked [-definite] relativization is optional.

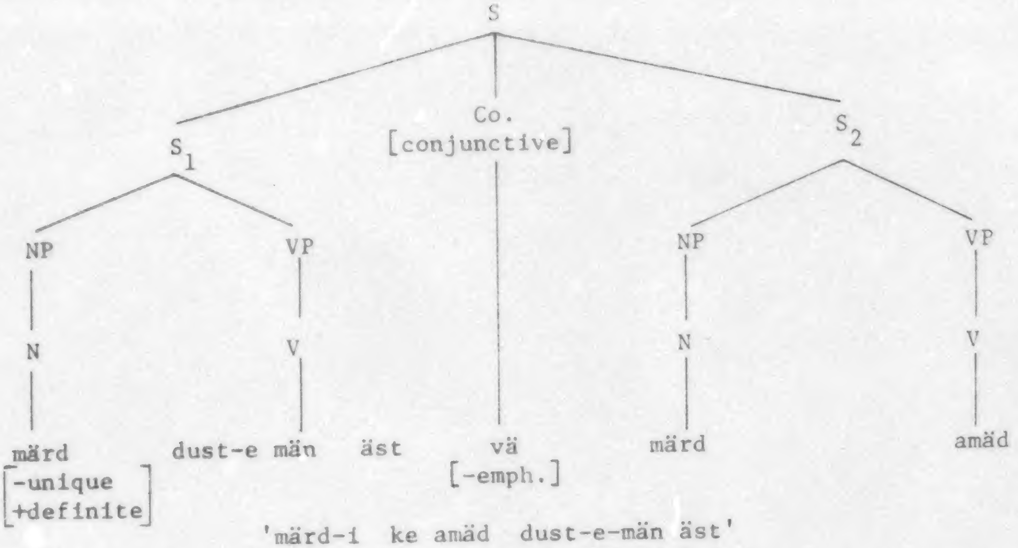
The following diagrams in which lexical items are inserted for clarity are approximations to the deep structures of relative clauses as generated by the phrase structure rule above.

2.2


S
Co.
[conjunctive]
S1
S2
NP
VP
NP
V
N
N
NP
VP
NP
V
N
N
män
ketab
[-unique
-definite]
xäridäm
vä
[-emph.]
ketab
jeld
nä-dašt

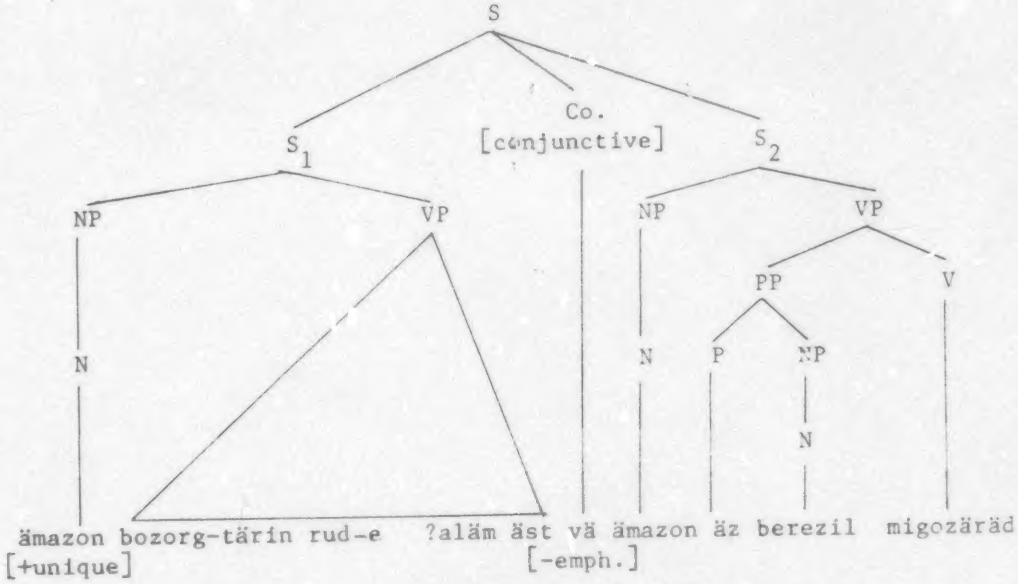
'ketab-i xäridäm, ke jeld nä-dašt'
a book I bought that cover not had

2.3


S
S1
Co.
[conjunctive]
S2
NP
VP
NP
VP
N
V
N
V
märd
[-unique
+definite]
dust-e män
äst
vä
[-emph.]
märd
amäd

'märd-i ke amäd dust-e-män äst'
the man that came friend of I is

2.4


S
S1
Co.
[conjunctive]
S2
NP
VP
NP
VP
N
PP
V
N
P
NP
N
ämazon bozorg-tärin rud-e ?aläm äst vä ämazon äz berezil migozäräd
[+unique]
[-emph.]

Amazon the largest river-par-world is and Amazon through Brazil passes

ämazon, ke äz berezil mi-gozär-äd, bozorg-tärin rud-e ?aläm äst
Amazon that of Brazil ind. pass it largest river of world is it

2.4 Transformations.

The phrase structure rule 1 given above spells out the deep structure of both attributive and appositive relative clauses. But to arrive at the surface structure representation, the structures given in the diagrams above must undergo several transformations. These transformations are all obligatory and apply in the specific order given below. Proceeding with the assumption that all relative clauses in Persian result from deep structure conjoined clauses where the conjoined clauses each contain a copy of a semantically coreferential noun, the left copy of which has the feature specification of either [+definite] or [-definite], and if [+definite] it is further specified as either [+unique] or [-unique], the transformations necessary to derive a surface relative clause from the structures in diagrams 2.2-2.4 are given below.

1. In a deep structure conjoined sentence where two clauses connected by the coordinator vä each have a copy of a coreferential noun; add ke in front of the second clause from the left in the string.

2. Delete the coordinator vä when it immediately precedes ke.

3. Replace the coreferential nouns in all clauses except the initial clause with an appropriate personal pronoun.

4. Delete the pronoun in the second clause if it functions as either the subject or direct object of the clause.

5. (a) Copy the second clause under the NP dominating the first coreferential noun (at the extreme right of the node NP) if the head noun is marked with the features [+definite] and [-unique].

   (b) If the head noun is [+definite] and [+unique] copy the second clause after the first coreferential noun.

6. Insert the relative particle i after a noun which is followed by a ke clause and are both dominated by the same NP mode.

These transformations are referred to as the ke-addition, vä deletion, pronominalization, pronoun deletion, attributive and appositive conjunct insertion, and relative particle addition respectively. In addition to these major rules the relative clauses are subject to the agreement and affix transformations not repeated here and a few minor rules which are briefly touched upon in the course of this study. The terminal structures that result from the application of these rules are in turn subject to the S-pruning and tree-pruning conventions which have the effect of deleting any node that dominates another node of exactly the same type or dominates nothing, and morphophonemic changes.[6]

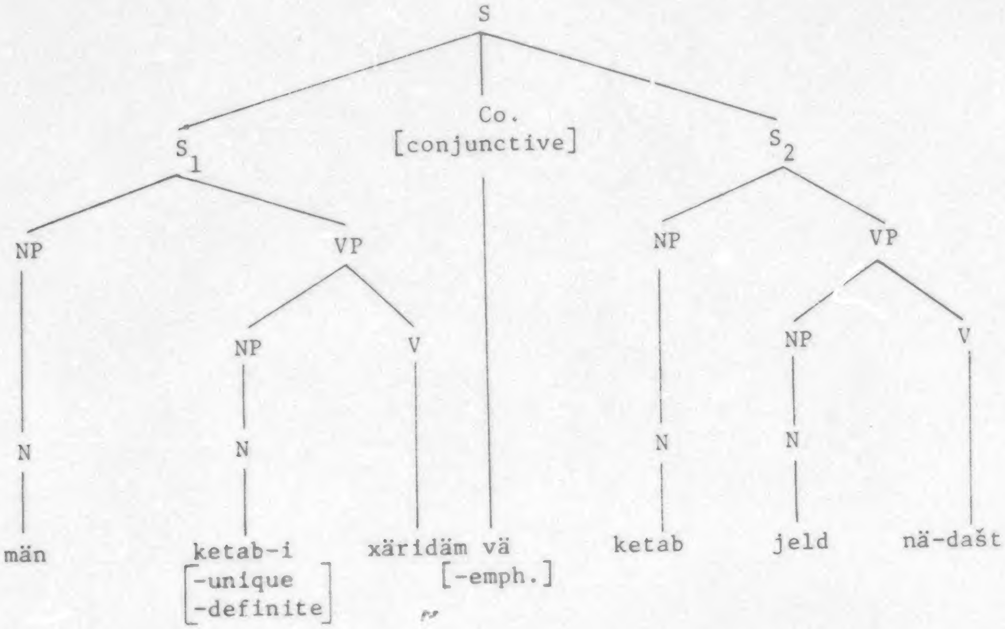
2.5 The Derivation of Attributive Relative Clauses

The attributive relative clause which occurs with an indefinite antecedent presents the simplest form of relative constructions in this language. As is apparent from the formulation of the relative clause transformations in Section 2.4, the derivation of such constructions requires the addition of the morpheme ke, the deletion of the conjunct vä, the replacement of the coreferential noun in the second conjunct by a personal pronoun, and the subsequent deletion of the pronoun if it functions as the subject or direct object of the second conjunct. The following diagrams illustrate the structural changes which occur in structure 2.2 as a result of the *ke addition*, *vä deletion*, *pronominalization*, *pronoun deletion*, and *pruning conventions* in this particular order.

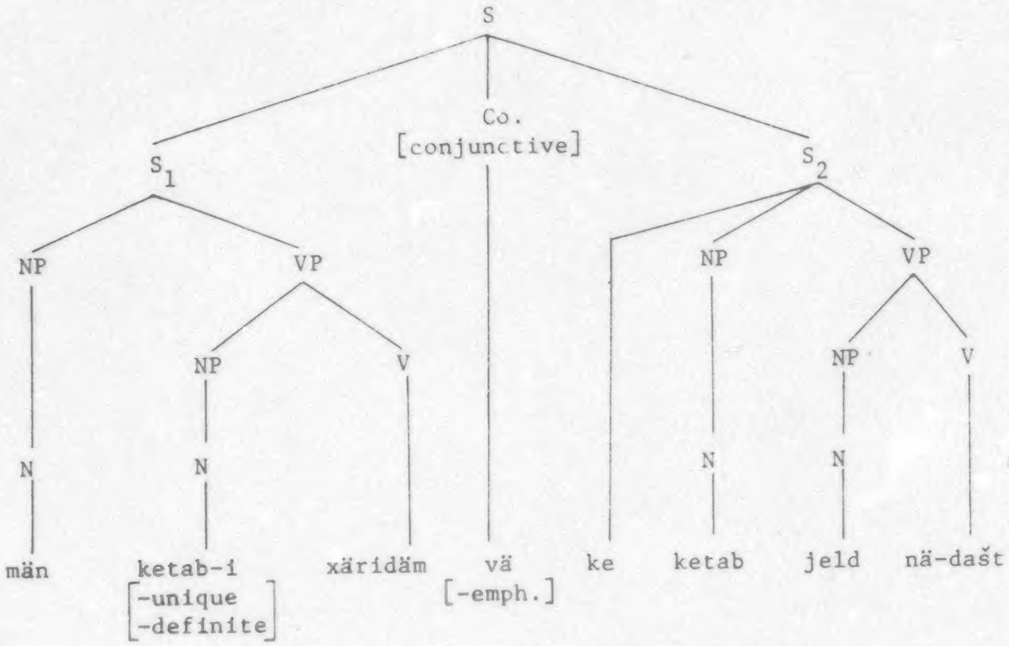
---

[6] Since the presentation of the S-pruning and tree-pruning conventions involves numerous repetitions of a single structure, for brevity these changes are not diagrammed in the derivation of the relative clauses. For a discussion of the S-pruning convention see Ross (1968:26) and for the discussion of the tree-pruning convention see Jacobs & Rosenbaum (1968:205).

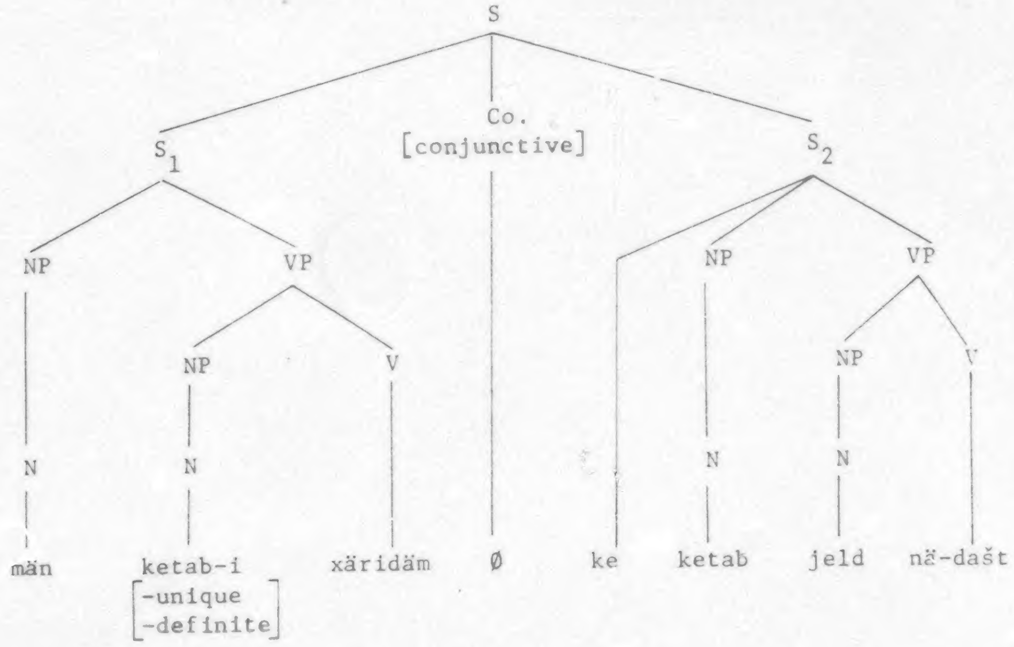
2.5


S
S$_1$
Co.
[conjunctive]
S$_2$
NP
VP
NP
V
N
N
NP
VP
NP
V
N
N
män
ketab-i
[-unique
-definite]
xäridäm
vä
[-emph.]
ketab
jeld
nä-dašt

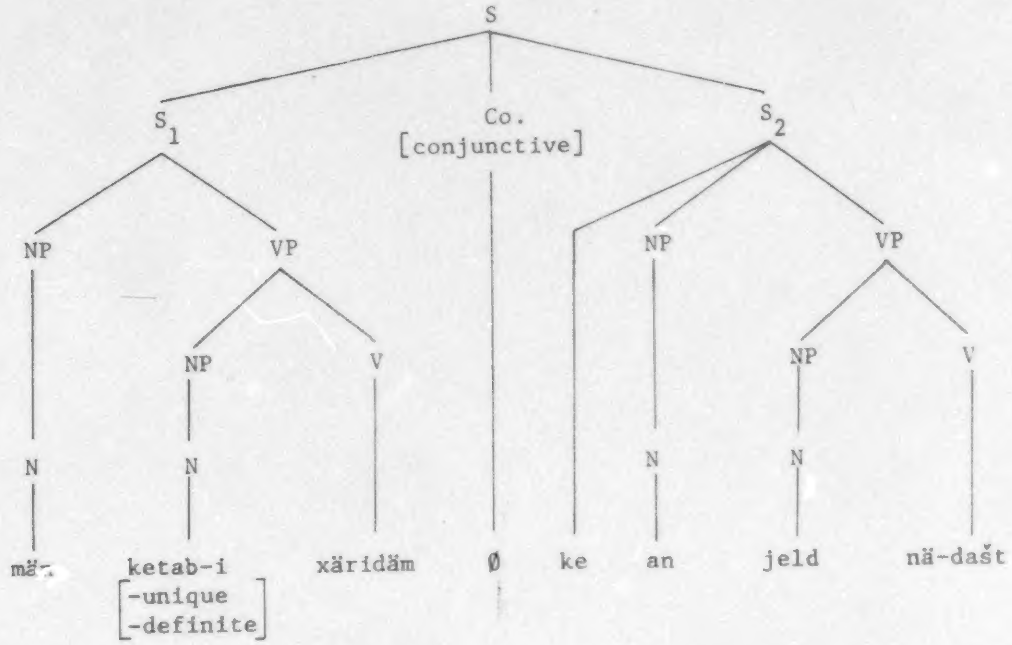
ke addition


S
S1
Co.
[conjunctive]
S2
NP
VP
NP
VP
NP
V
NP
V
N
N
N
N
män
ketab-i
[-unique
-definite]
xäridäm
vä
[-emph.]
ke
ketab
jeld
nä-dašt

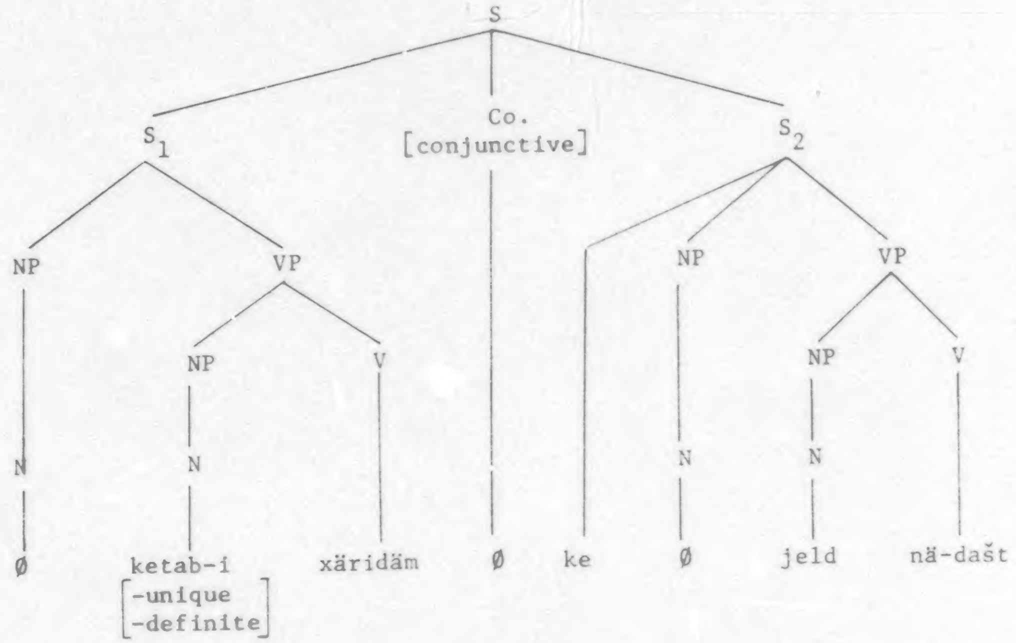
vä deletion


S
S1
Co.
[conjunctive]
S2
NP
VP
NP
VP
NP
V
NP
V
N
N
N
N
män
ketab-i
[-unique
-definite]
xäridäm
Ø
ke
ketab
jeld
nä-dašt

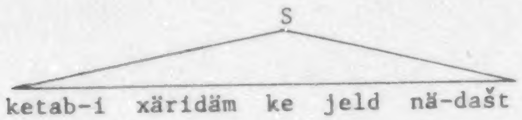
pronominalization


S
S
1
Co.
[conjunctive]
S
2
NP
VP
NP
V
NP
VP
NP
V
N
N
N
N
män
ketab-i
-unique
-definite
xäridäm
Ø
ke
an
jeld
nä-dašt

pronoun deletion


S
S
1
Co.
[conjunctive]
S
2
NP
VP
NP
V
NP
VP
NP
V
N
N
N
N
Ø
ketab-i
-unique
-definite
xäridäm
Ø
ke
Ø
jeld
nä-dašt

By the application of the tree-pruning and sentence pruning conventions and the phonological rules, the last structure is transformed to the following form.

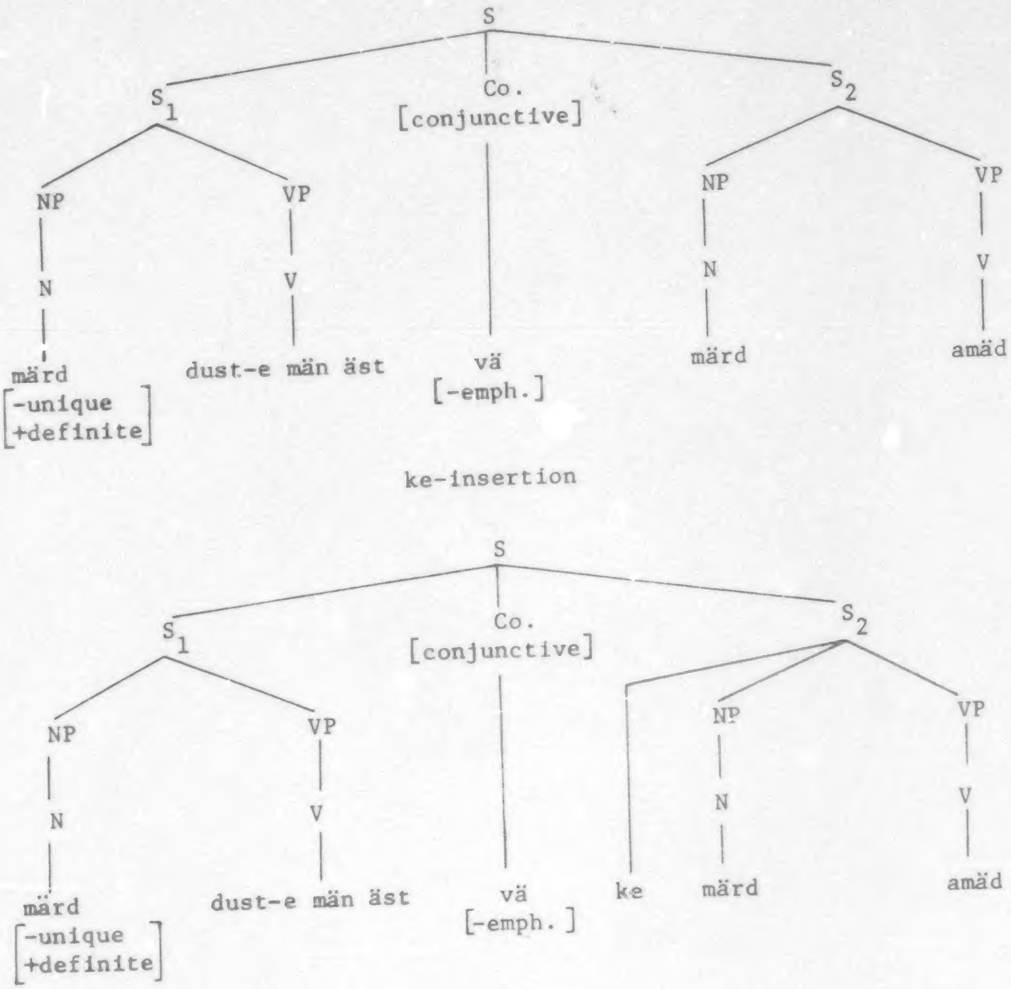


'ketab-i xäridäm ke jeld nä-dašt'
'I bought a book which did not have a cover.'

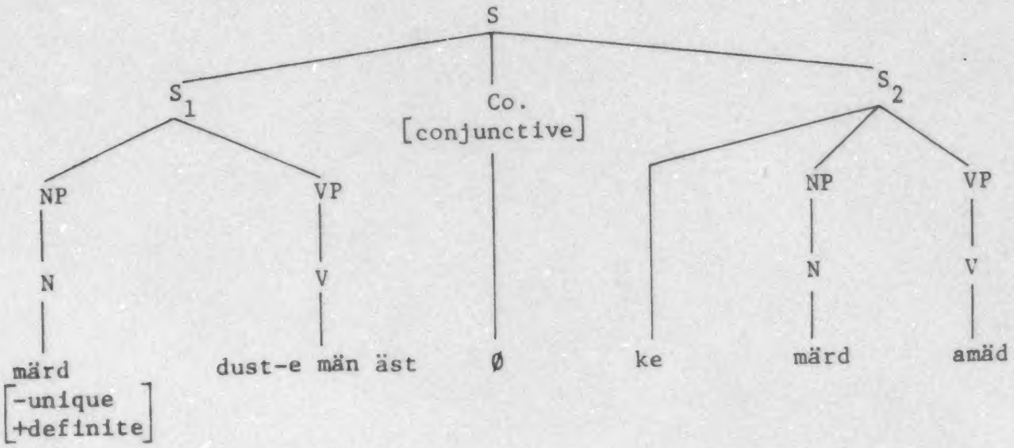
The derivation of attributive clauses with a definite antecedent is more involved than the derivation of the relative clauses just discussed. In this type of attributive construction as indicated by the position of the relative clause in the surface sentences, after the application of the ke-addition, coordinator deletion, pronominalization, and pronoun deletion, the second member of the conjoined sentence (relative clause) is moved inside the first conjunct (main sentence). The insertion of the second conjunct is not limited to attributive relative clauses with a definite antecedent; it also occurs in the derivation of the appositive relative clauses in this language. But one important difference between these two sub-types of relative clauses is that in an attributive construction the second conjunct is introduced under the NP node which dominates the antecedent, but in an appositive construction the second conjunct is inserted within the main sentence after the NP node which dominates the antecedent. This insight into the nature of the conjunct insertion in both attributive and appositive relative clauses is suggested by the absence of an intonation break between an attributive relative clause and its antecedent, and the presence of the comma break between an appositive clause and its antecedent. As is already apparent from rule 5a. in this chapter, the condition for the application of the attributive conjunct insertion is the presence of the feature [-unique] and [+definite] in the deep structures.

The attributive conjunct insertion rule 5a. is followed by the addition of the relative particle i after the antecedent. Figure 2.6 below diagrams the derivation of sentence 3 from structure 2.3 by means of the transformational rules given previously.

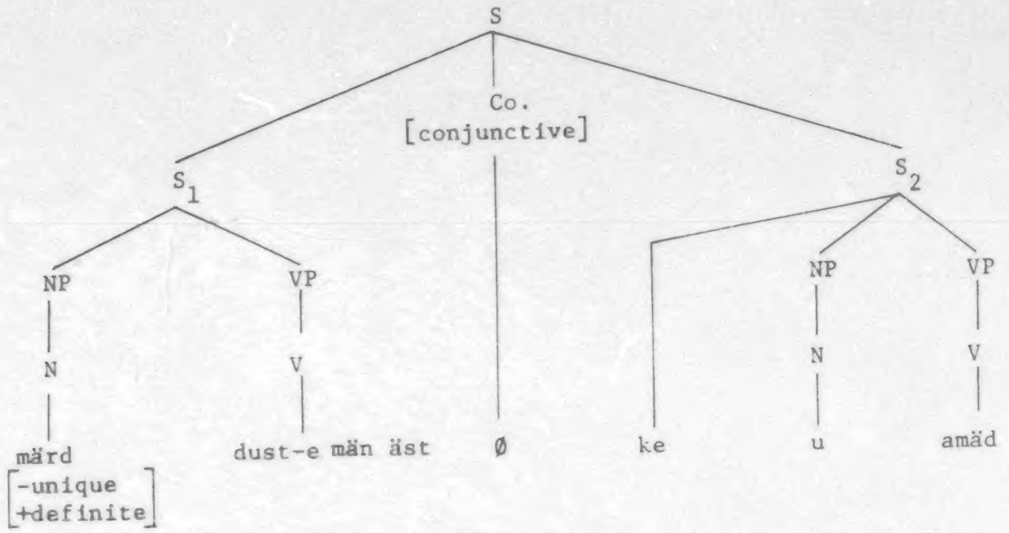
2.6


S
S1
Co.
[conjunctive]
S2
NP
VP
N
V
NP
VP
N
V
märd
[-unique +definite]
dust-e män äst
vä
[-emph.]
märd
amäd
ke-insertion
S
S1
Co.
[conjunctive]
S2
NP
VP
N
V
NP
VP
N
V
märd
[-unique +definite]
dust-e män äst
vä
[-emph.]
ke
märd
amäd

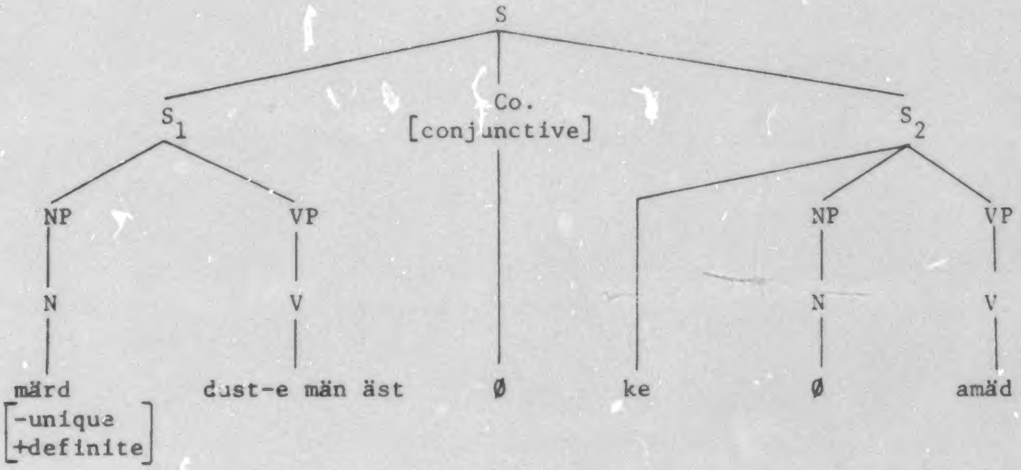
vä-deletion


S
S_1
Co.
[conjunctive]
S_2
NP
VP
NP
VP
N
V
N
V
märd
dust-e män äst
Ø
ke
märd
amäd
-unique
+definite

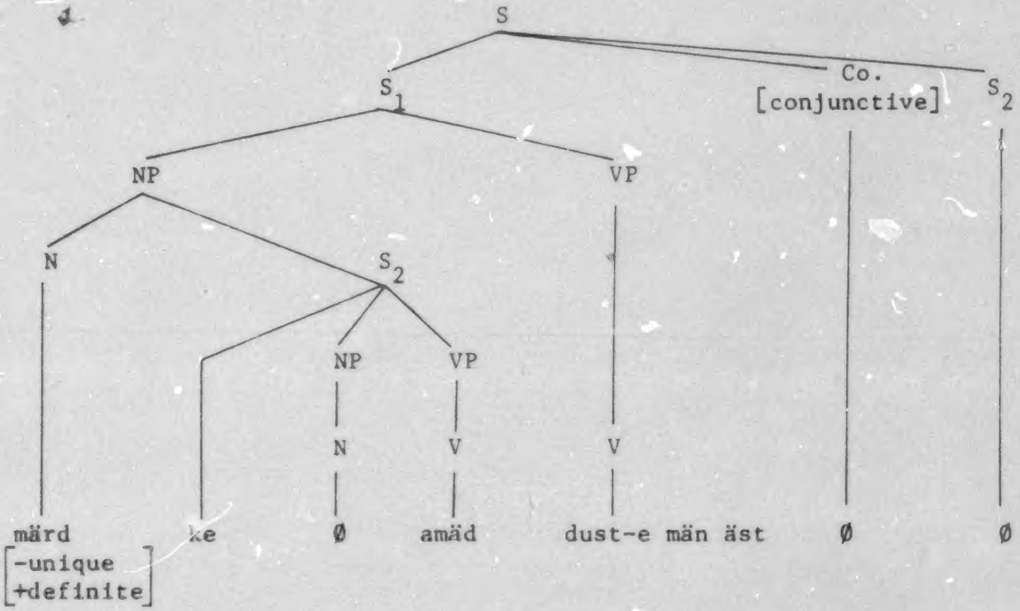
pronominalization


S
Co.
[conjunctive]
S_1
S_2
NP
VP
NP
VP
N
V
N
V
märd
dust-e män äst
Ø
ke
u
amäd
-unique
+definite

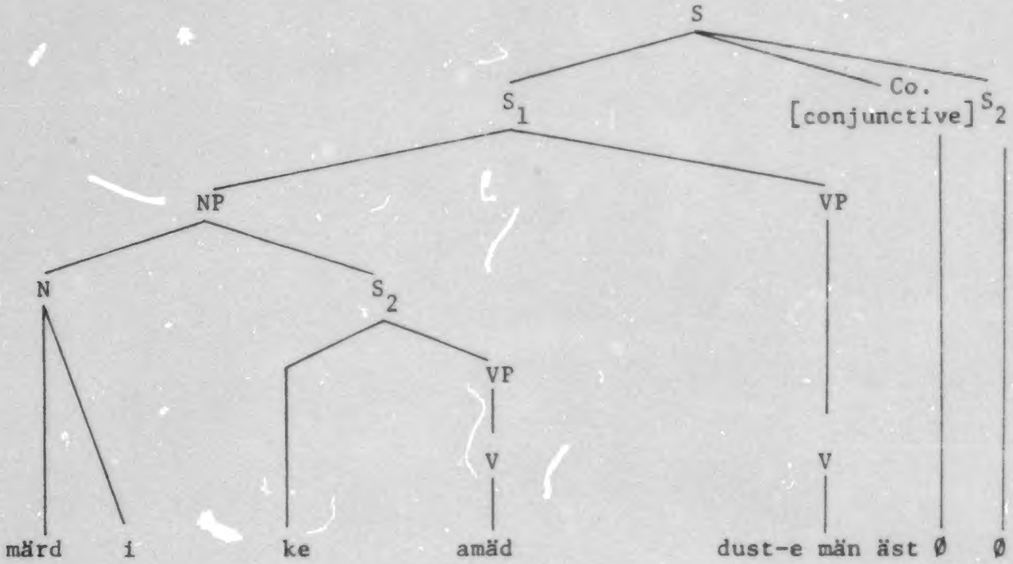
pronoun deletion


S
S1
Co.
[conjunctive]
S2
NP
VP
NP
VP
N
V
N
V
märd
dust-e män äst
0
ke
0
amäd
-unique
+definite

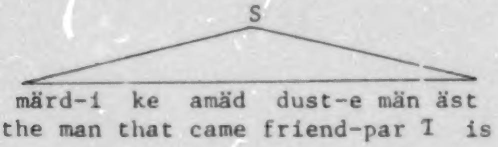
attributive conjunct insertion


S
S1
Co.
[conjunctive]
S2
NP
VP
N
S2
NP
VP
N
V
V
märd
ke
0
amäd
dust-e män äst
0
0
-unique
+definite

relative particle addition


S
S_1
Co.
[conjunctive]
S_2
NP
VP
N
S_2
VP
V
V
märd
i
ke
amäd
dust-e män äst
0
0

After the application of the phonological rules and the erasing of the brackets, this structure is transformed into sentence 3 reproduced below.

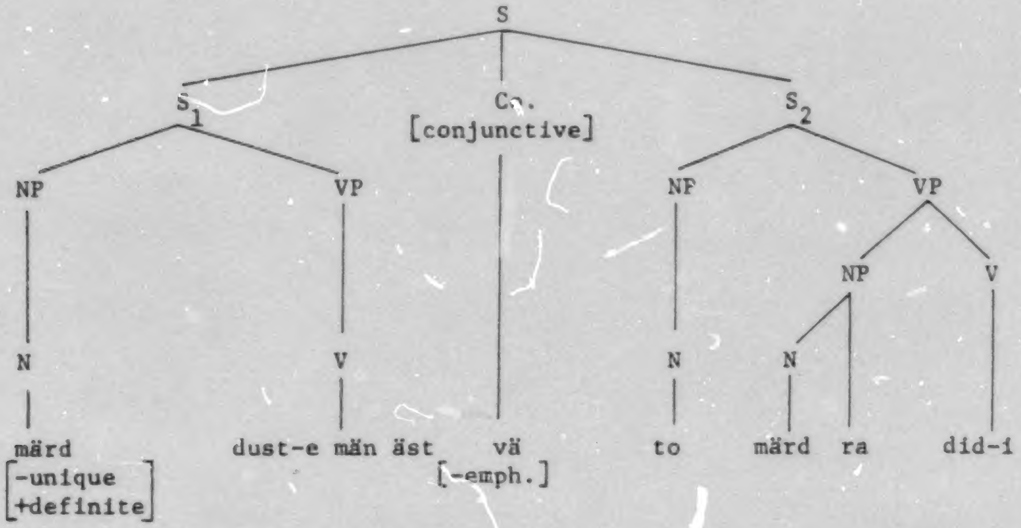

S
märd-i ke amäd dust-e män äst
the man that came friend-par I is

'The man who came is my friend.'

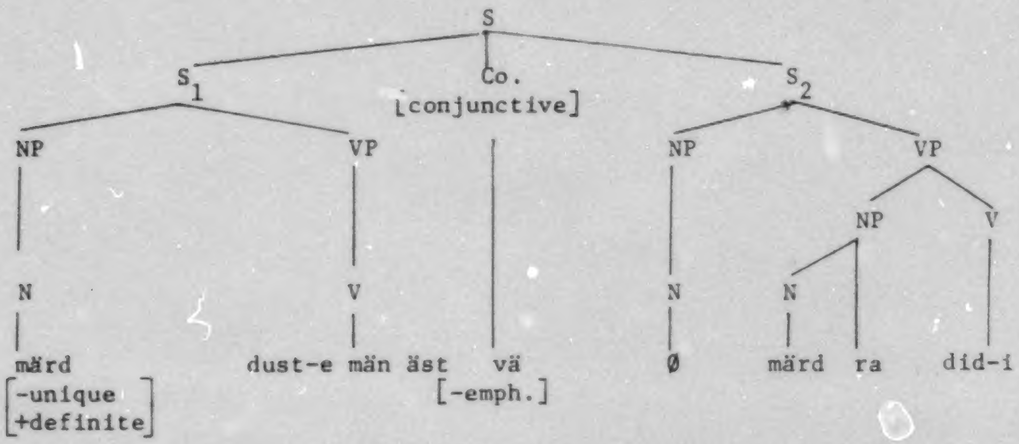
One particular feature of these attributive constructions that needs additional explanation is the deletion of the pronoun that is produced from the application of the pronominalization rule. As the pronoun deletion rule indicates, only those pronouns that refer to the antecedent and function as the subject or direct object of the relative clause can be deleted.

All specific direct objects are marked with the morpheme _-ra_, whenever the direct object pronoun is deleted, this marker is incorporated into the antecedent. The incorporation of the marker is optional. Diagram 2.7 illustrates the application of these additional rules. For brevity the structural changes which occur before the application of these rules are not repeated here, but the names of the rules are given.

2.7


S
S_1
Co.
[conjunctive]
S_2
NP
VP
NP
VP
NP
V
N
V
N
N
märd
[-unique +definite]
dust-e män äst
vä
[-emph.]
to
märd
ra
did-i

optional subject deletion

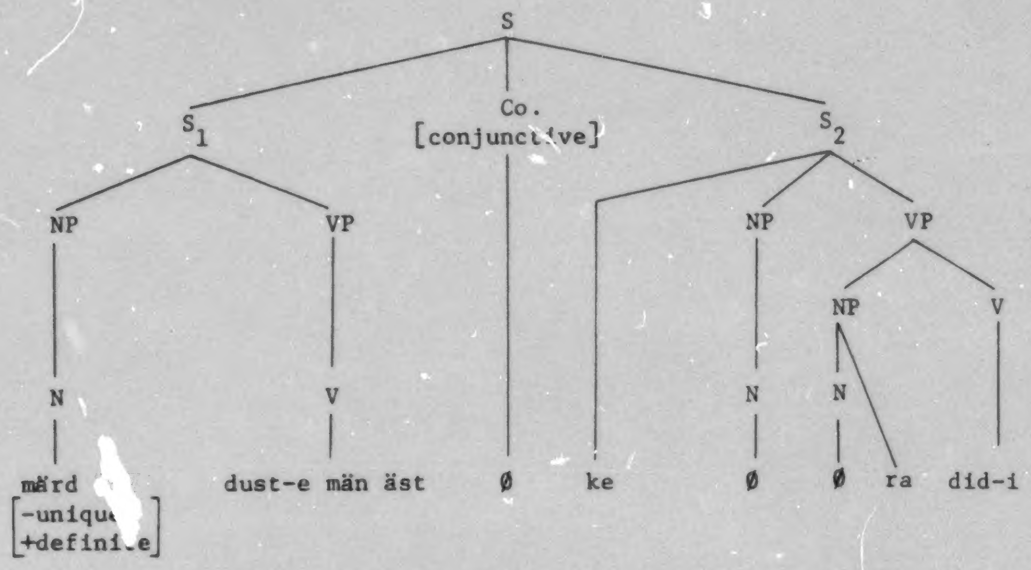

S
S_1
Co.
[conjunctive]
S_2
NP
VP
NP
VP
NP
V
N
V
N
N
märd
[-unique +definite]
dust-e män äst
vä
[-emph.]
Ø
märd
ra
did-i

ke-addition

vä deletion

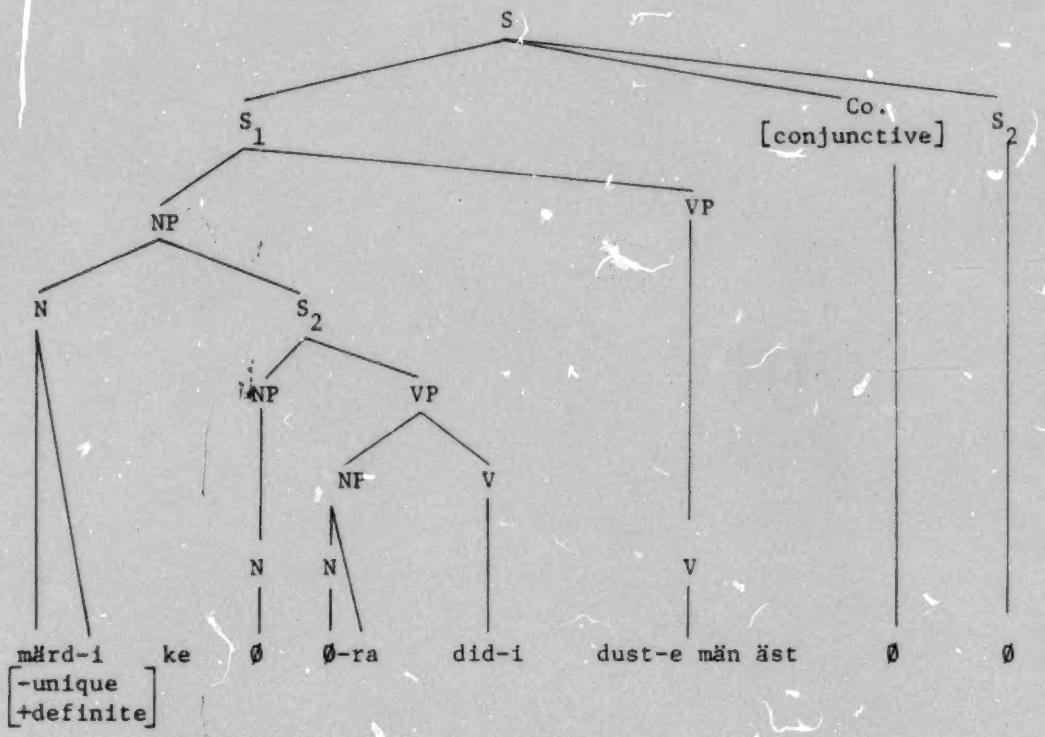
pronominalization

pronoun deletion

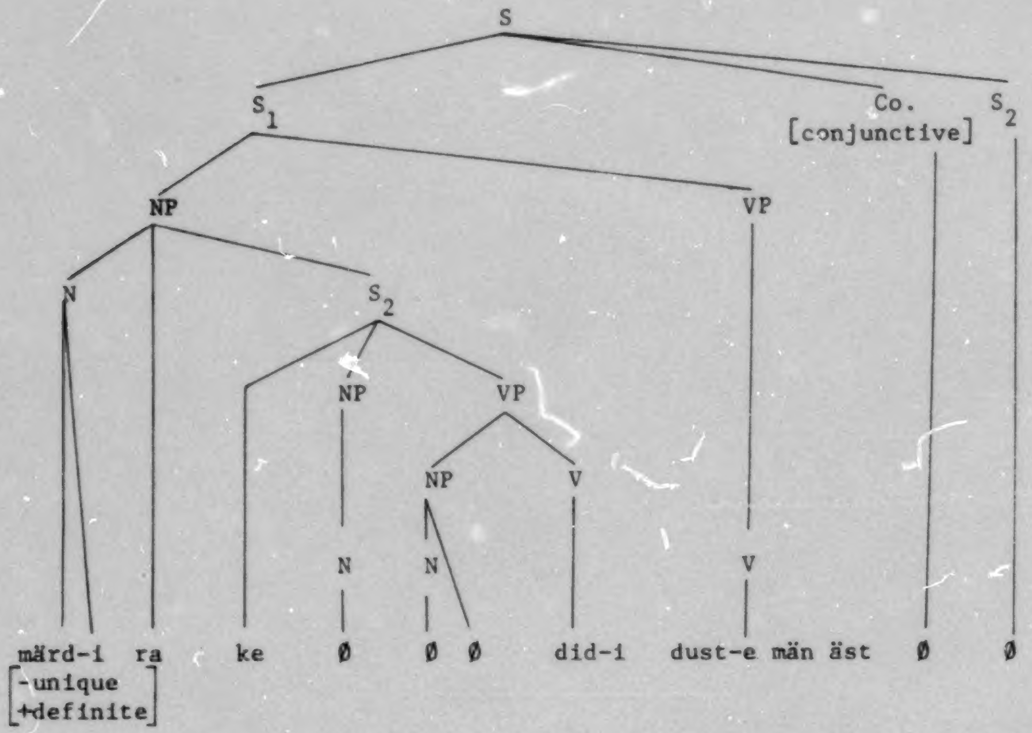

S
S1
Co.
[conjunctive]
S2
NP
VP
N
V
NP
VP
NP
V
N
N
märd
-unique
+definite
dust-e män äst
0
ke
0
0
ra
did-i

attributive conjunct insertion

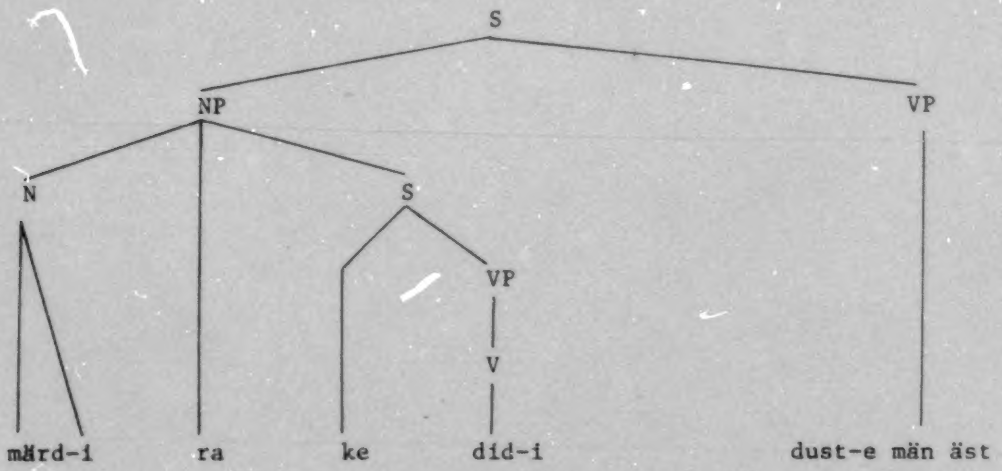
relative particle addition


S
S1
Co.
[conjunctive]
S2
NP
VP
N
S2
NP
VP
NP
V
N
N
V
märd-i
ke
Ø
Ø-ra
did-i
dust-e män äst
Ø
Ø
-unique
+definite

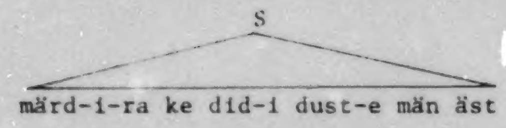
optional ra incorporation


S
S1
Co.
[conjunctive]
S2
NP
VP
N
S2
NP
VP
NP
V
N
N
V
märd-i
-unique
+definite
ra
ke
0
0
0
did-i
dust-e män äst
0
0

pruning principles


S
NP
VP
N
S
VP
V
märd-i
ra
ke
did-i
dust-e män äst

After the application of the phonological rules and the removal of the brackets this structure ultimately results in the surface sentence in example 4 reproduced below.



märd-i-ra	ke	did-i	dust-e	män	äst
the man	that(you)saw		friend	of	I	is

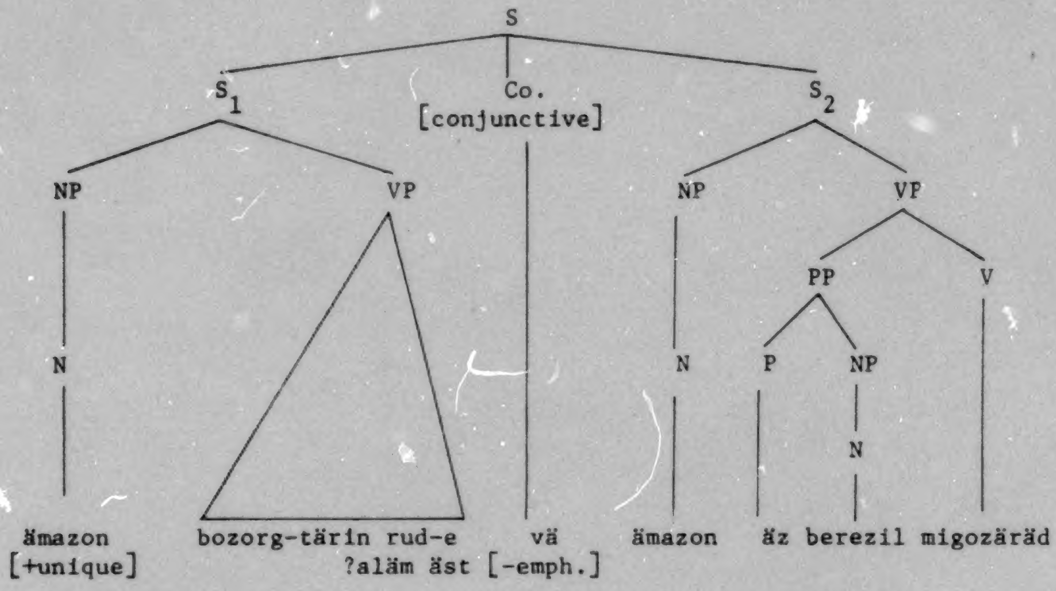
'The man that you saw is my friend.'

2.6 The Derivation of Appositive Relative Clauses

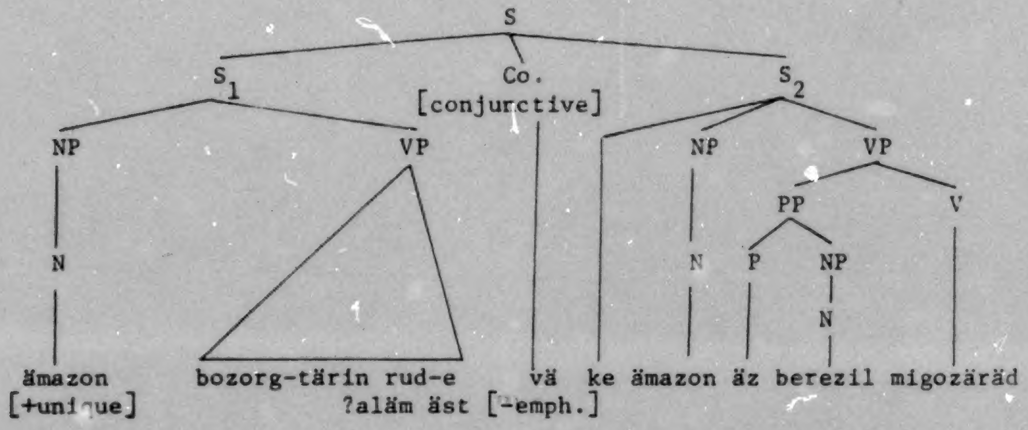
The formation of the appositive relative clause is not fundamentally different from that of the attributive relative clause. Among the rules given in Section 2.4, the ke-addition, vä-deletion, pronominalization, and the pronoun deletion are equally applicable to the underlying form of appositive constructions. But the insertion rule according to which the second conjunct is introduced under the NP node dominating the antecedent is different. As indicated by the presence of the intonation break between the relative clause and the main sentence, in appositive constructions the second conjunct is inserted within the main sentence (after the NP node which dominates the antecedent). In order to keep these two processes apart, we will refer to the latter rule as the appositive conjunct insertion. As a comparison of the attributive conjunct insertion with the appositive conjunct insertion rule shows, the condition for the application of the former rule is the presence of the features [-unique] and [+definite], whereas the condition for the application of the latter is the existence of the features [+unique] and [+definite].

For illustrative purposes, the structural changes that occur in p. marker 2.8 by the application of the ke-insertion, vä deletion, pronominalization, pronoun deletion, and appositive conjunct insertion are diagrammed in the following figures. The formation of all complex sentences containing an appositive clause requires the application of the same set of rules in the particular order given above.

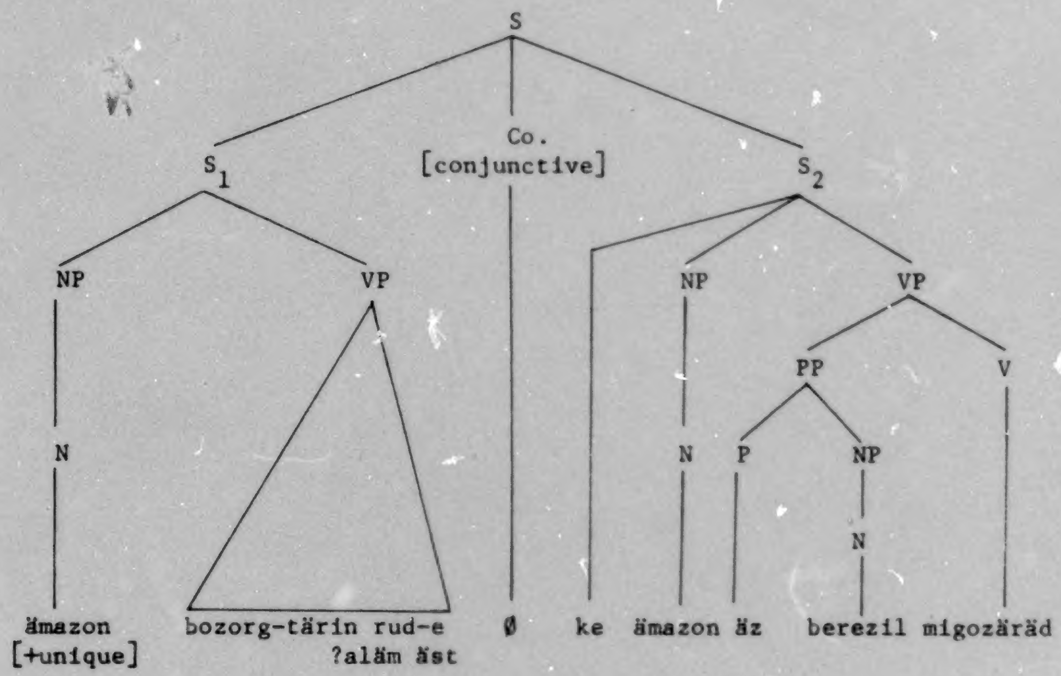
2.8


S
S1
Co.
[conjunctive]
S2
NP
VP
NP
VP
PP
V
N
N
P
NP
N
ämazon
[+unique]
bozorg-tärin rud-e
?aläm äst
vä
[-emph.]
ämazon
äz
berezil
migozäräd

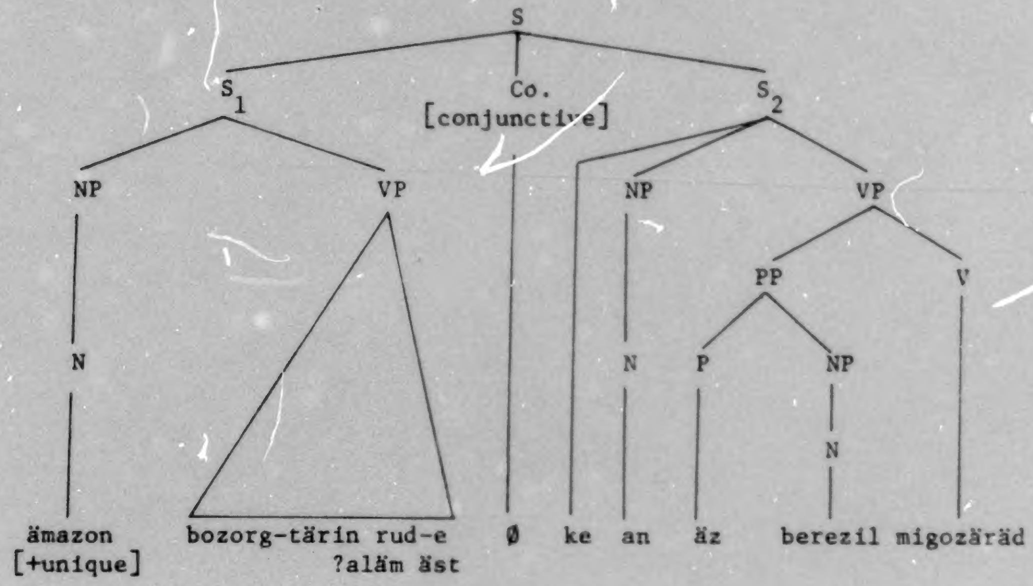
ke-addition


S
S1
Co.
[conjunctive]
S2
NP
VP
NP
VP
PP
V
N
N
P
NP
N
ämazon
[+unique]
bozorg-tärin rud-e
?aläm äst
vä
[-emph.]
ke
ämazon
äz
berezil
migozäräd

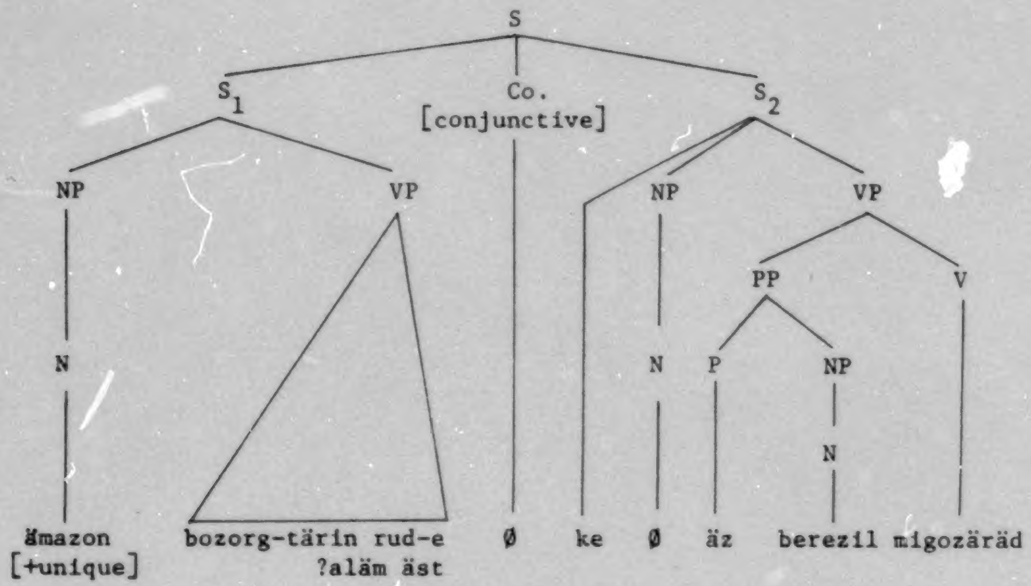
vä deletion


S
S1
Co.
[conjunctive]
S2
NP
VP
NP
VP
PP
V
N
N
P
NP
N
ämazon
[+unique]
bozorg-tärin rud-e
?aläm äst
Ø
ke
ämazon
äz
berezil
migozäräd

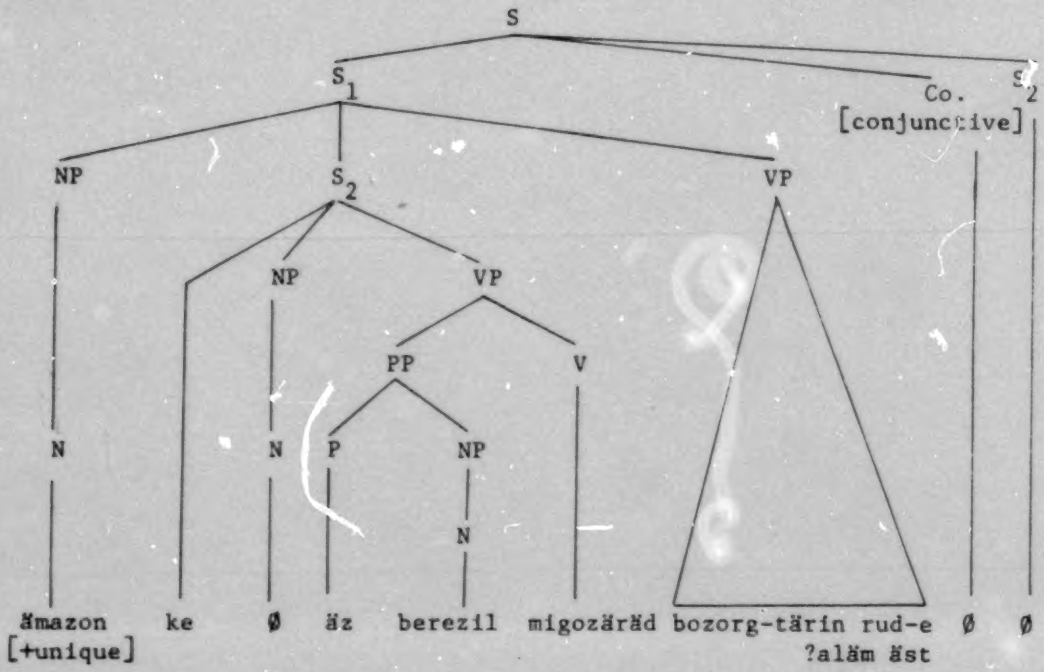
pronominalization


S
S1
Co.
[conjunctive]
S2
NP
VP
NP
VP
PP
V
N
N
P
NP
N
ämazon
[+unique]
bozorg-tärin rud-e
?aläm äst
Ø
ke
an
äz
berezil
migozäräd

pronoun deletion

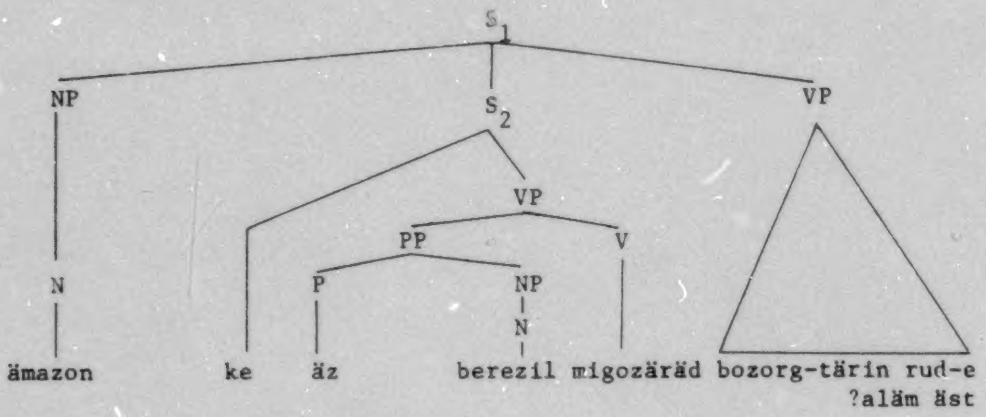

S
S$_1$
Co.
[conjunctive]
S$_2$
NP
VP
NP
VP
PP
V
N
N
P
NP
N
ămazon
[+unique]
bozorg-tärin rud-e
?aläm äst
Ø
ke
Ø
äz
berezil
migozäräd

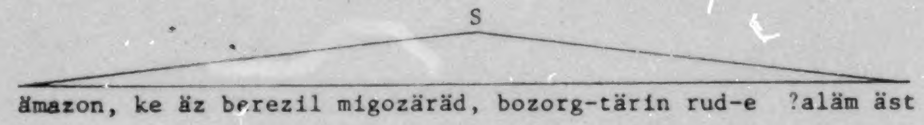
appositive conjunct insertion


S
S$_1$
Co.
[conjunctive]
S$_2$
NP
S$_2$
VP
NP
VP
PP
V
N
N
P
NP
N
ămazon
[+unique]
ke
Ø
äz
berezil
migozäräd
bozorg-tärin rud-e
?aläm äst
Ø
Ø

As in attributive relative clauses, this structure is subject to the S-pruning and tree-trimming conventions as in the following diagrams.

pruning principles


S₁
NP
S₂
VP
VP
PP
V
N
P
NP
N
ämazon
ke
äz
berezil
migozäräd
bozorg-tärin rud-e ?aläm äst


S
ämazon, ke äz berezil migozäräd, bozorg-tärin rud-e ?aläm äst

ämazon,	ke	äz	berezil	migozäräd,
the Amazon,	that	through	Brazil	passes,

bozorg-tärin	rud-e	?aläm	äst
the largest	river-par-	world	is

'The Amazon, which passes through Brazil, is the largest river in the world.'

The appositive relative clause in which the main verb is the copula is subject to one more structural modification. This modification, which amounts to the optional deletion of the copula followed by the obligatory deletion of the connective morpheme ke, results in the formation of the following type of sentences.

33. aqa-ye bähmän, näxost-väzir, diruz be-orupa
Mr. Bahman the prime minister yesterday to Europe

räft
went he

'Mr. Bahman, the prime minister, went to Europe yesterday.'

34. ebn-e sina, täbib vä filsuf-e mäšhur-e
Avecina the physician and philosopher famous of

irani, där qärn-e nohom motäväled šode
Iranian in century nine born got he

'Avecina, the famous Iranian physician and philosopher, was born in the ninth century.'

35. šahname, šahkar-e ädäbiyat-e farsi, där
Shahnama the masterpiece of literature of Persian in

modät-e si sal nevešte šode
period of thirty years written got it

'Shahnama, the masterpiece of the Persian literature, was compiled in thirty years.'

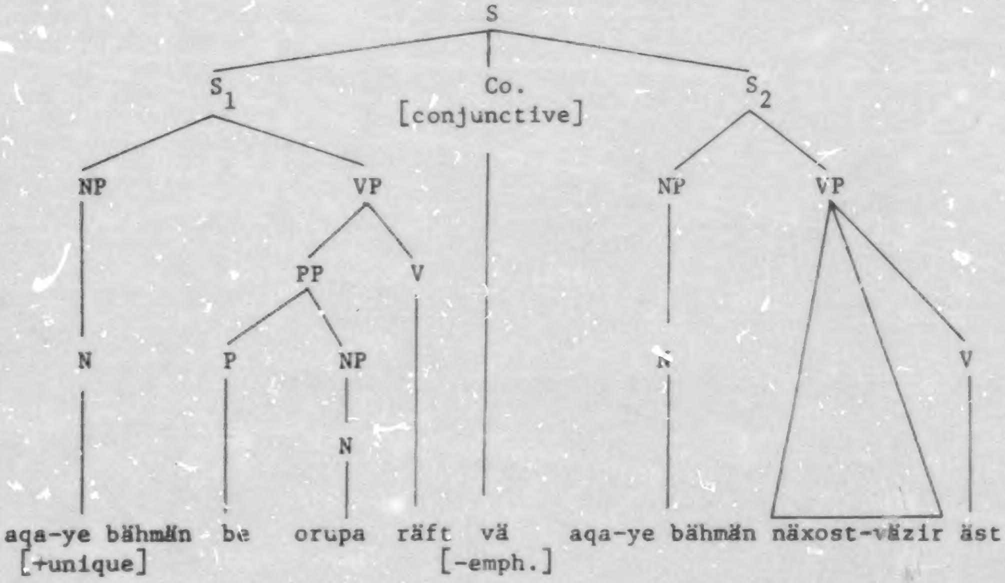
As a comparison between sentence 35 and sentence 19 amply indicates, an appositive clause whose verb is the copula plus a title can optionally undergo a further alteration by which the copula is deleted. The optional deletion of the copula and the subsequent alterations that take place in an appositive relative clause is summed up in rules 7 and 8 below.

7. In an appositive relative clause if the main verb is the copula preceded by an adjective or a title, the copula can be optionally deleted.

8. Delete the relative morpheme ke whenever it is adjacent to a sentence with an empty verb node.

These rules apply before the S-pruning and morphophonemic changes but follow rules 1-6 given above. The application of these rules and the order in which they occur is shown in the diagrams that follow.

2.9


S
S_1
Co.
[conjunctive]
S_2
NP
VP
NP
VP
PP
V
N
P
NP
N
V
N
aqa-ye bähmän
[+unique]
be
orupa
räft
vä
[-emph.]
aqa-ye bähmän
näxost-väzir
äst

ke-insertion

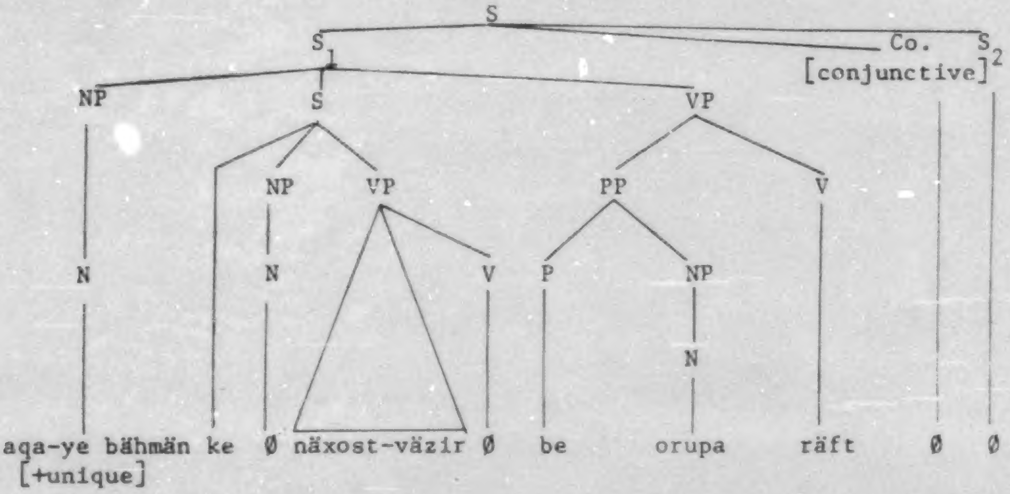
vä deletion

pronominalization

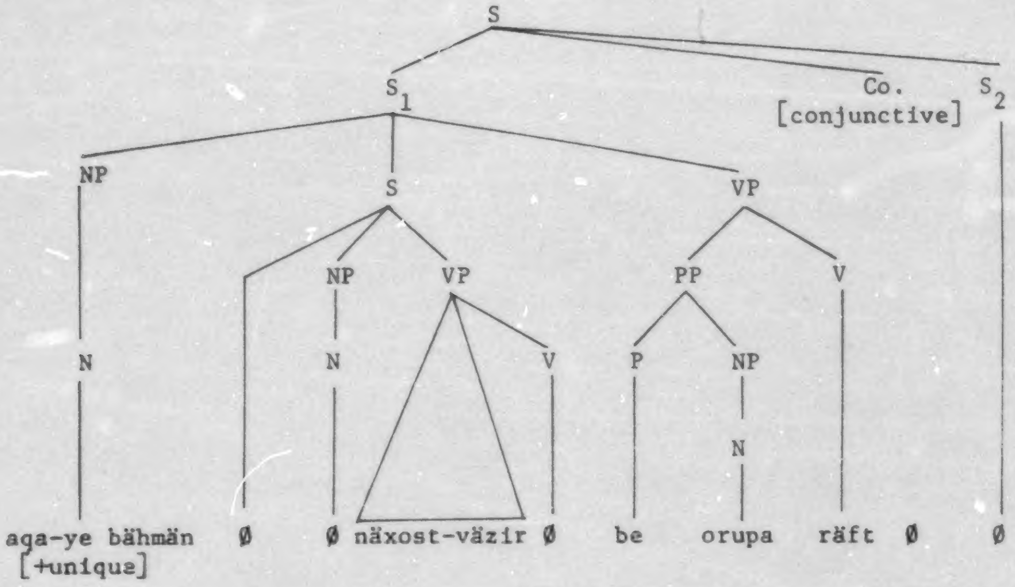
pronoun deletion

appositive conjunct insertion

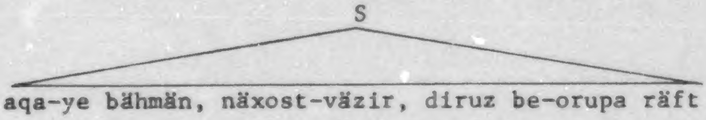
optional copula deletion


S
S_1
Co.
[conjunctive]
S_2
NP
S
VP
NP
VP
PP
V
N
N
V
P
NP
N
aqa-ye bähmän
[+unique]
ke
Ø
näxost-väzir
Ø
be
orupa
räft
Ø
Ø

ke-deletion


S
S1
Co.
[conjunctive]
S2
NP
S
VP
NP
VP
PP
V
N
N
V
P
NP
N
aqa-ye bähmän
[+unique]
Ø
Ø
näxost-väzir
Ø
be
orupa
räft
Ø
Ø

pruning conventions


S
aqa-ye bähmän, näxost-väzir, diruz be-orupa räft

aqa-ye bähmän, näxost-väzir, diruz be- orupa räft
Mr. Bahman, the prime minister, yesterday to Europe went

'Mr. Bahman, the prime minister, went to Europe yesterday.'

These constructions, in which the copula is deleted, are the equivalent of the English construction 'loose apposition' (Sledd, 1959:192). 'Close apposition' is expressed in Persian by an ezafe construction and will be discussed in the next chapter.

CHAPTER 3

EZAFE

3.1 Definition

Ezafe, which literally means 'adjunct' in Persian, is a term employed by grammarians to describe a variety of constructions in this language that consist of a noun followed by either an adjective, a participle, an adverb, an infinitive, a noun, or a pronoun. In an ezafe construction the first constituent (which could be conveniently called the determined) is linked to the second constituent (determiner) by means of the unstressed particle e. The connective particle is always suffixed to the determined.[1] A gross taxonomic representation of the ezafe constructions in Persian would appear as follows:

Determined + e + Determiner

	Noun-par.	Adjective
1.	ab-e water-par.	gärm hot

'hot water'

---

[1] The Persian grammarians call the first element of an ezafe construction 'mozaf', the second element of that construction 'mozaf-elaih', and the construction itself 'ezafe'. In this study we use the term 'determined' for 'mozaf', 'determiner' for 'mozaf-elaih', and 'ezafe construction' for the combination of the two. The ezafe particle e will be translated into English as 'particle', abbreviated as par., or translated by the preposition 'of' wherever it is appropriate.

Noun-par.   Participle

2. ruz-e   gozäšte
day-par.   passed

'previous day'

Noun-par.   Adverb

3. jävanan-e   emruz
the youth-par.   today

'modern youth'

Noun-par.   Infinitive

4. moqe?-e   räftän
time-par.   to go

'time to go'

Noun-par.   Noun

5. läb-e   lä?l
lip-par.   ruby

'a ruby lip'

6. lä?l-e   läb
ruby-par.   lip

'the ruby of the lip'

7. ketab-e   häsän
book-par.   Hassan

'Hassan's book'

8. där-e   xane
door-par.   house

'the door of the house'

9. kenar-e   därya
side-par.   sea

'the seashore'

Noun-par. Pronoun

10. ketab-e män
book-par. I

'my book'

An ezafe construction is not only used to express qualification, as in examples 1-5, and possession, as in examples 6-10, but it is also used to express apposition. For example:

Noun-par. Proper noun

11. xälij-e fars
gulf-par. Persia

'the Persian Gulf'

12. kešvär-e iran
country-par. Iran

'the country of Iran'

13. šähr-e tehran
city-par. Tehran

'the city of Tehran'

The ezafe particle in this language is used between a title and the following noun. e.g.

14. aqa-ye bähmän
Mr.-par. Bahman

'Mr. Bahman'

The ezafe particle is also used in the constructions in which an infinitive is followed by a noun or a pronoun.

Infinitive-par. Noun

15. räftän-e häsän
to go-par. Hassan

'Hassan's going'

3.2 Classification of Ezafe

In order to have a better understanding of the characteristics of ezafe and its position in the grammar of Persian, we will begin our analysis with a brief representation of ezafe as it appears in other grammars. Although ezafe has received a great deal of attention in almost all grammars on Persian, these treatments usually do not go beyond a classification of ezafe constructions into several types. In the majority of the available classifications the reader is usually provided with a description of the constituents of ezafe coupled with some remarks about the semantic contents of the constituents. In all these classifications ezafe is treated as a part of the morphology rather than of the syntax. As an illustration let us briefly examine the three best-known classifications of ezafe constructions.

The first classification in which only random semantic features serve as a criterion for establishing ezafe types is that of Malek-o-shoara Bahar et al. (1938:28-35) in Dästure zäbane farsi. Bahar recognizes five types of ezafe constructions as basic and lists them as follows:

1. Ezafe of qualification (bäyani) in which the determiner indicates the quality or the substance of the determined.

16. ängoštär-e   täla
    ring-par.   gold

'the gold ring'

2. Ezafe of possession (melki) in which the possessor is human and therefore capable of possessing.

17.	ketab-e	häsän
	book-par.	Hassan

'Hassan's book'

3. Ezafe of allocation (täxsisi) in which the determined is non-human and hence is not capable of possession.

18.	där-e	xane
	door-par.	house

'the door of the house'

4. Ezafe of similarity (täšbihi) in which the resemblance between the determined and the determiner is sought. In this kind of ezafe, according to Bahar, two possibilities exist, e.g.

A. The determined is likened to the determiner.

19.	läb-e	lä?l
	lip-par.	ruby

'ruby lip'

B. The determiner is likened to the determined.

20.	lä?l-e	läb
	ruby-par.	lip

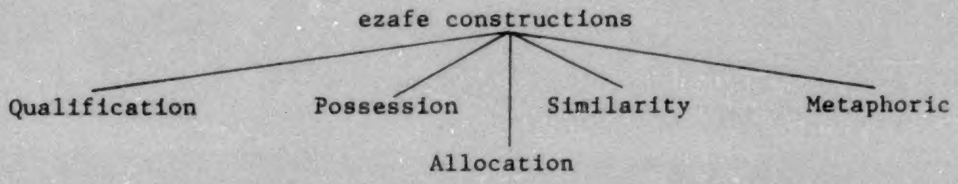
'the ruby of the lip'

5. Metaphoric ezafe (este?ari) in which the determined is not used in its ordinary meaning but rather in a transferred sense.

21.	däst-e	ruzegar
	hand-par.	time

'the hand of time'

A schematic presentation of Bahar's classification is this:


ezafe constructions
Qualification
Possession
Similarity
Metaphoric
Allocation

The second classification of ezafe constructions to be examined here is that of Homayun Farokh (1958:838-61), who recognizes six basic ezafe types. Farokh's classification is different from Bahar's due to his practice of using both semantic and morphological criteria. For example, Farokh argues that ezafe of qualification (bäyani) must be broken down into ezafe of qualification proper and ezafe of modification (tosifi). The difference between these two ezafe lies in the fact that in the former the determiner is a noun whereas in the latter the determiner is a real adjective. Thus in the next two examples 22 is an ezafe of qualification and 23 is an ezafe of modification.

22. tir-e ahän
beam-par. iron

'iron beam'

23. bärg-e säbz
leaf-par. green

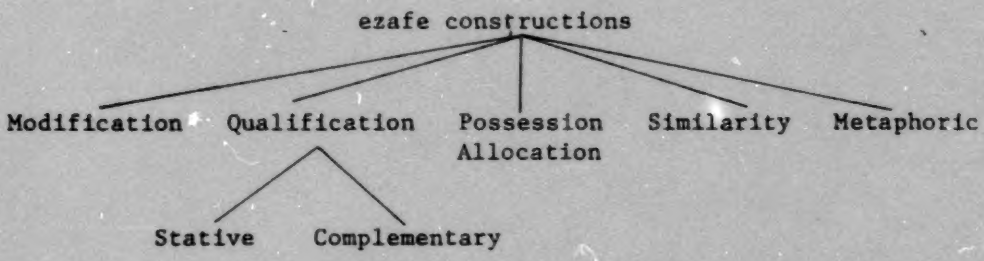
'green leaf'

Following the same line of argument, but employing semantic features, he maintains that ezafe of qualification can be further subdivided into stative and complementary ezafe. In stative ezafe a common noun specifies the substance of the determined as in example 22 above, while in complementary ezafe the determined is specified by a proper noun as in example 24.

24. ruz-e šämbe
day-par. Sabbath

'the day which is Saturday'

In spite of these additions, Farokh observes that ezafe of allocation is not distinct from ezafe of possession. The rest of his ezafe classification, based on semantic features, is not different from that of Bahar.[2] A diagramatic presentation of Farokh's classification would appear as:



The final classification of ezafe constructions, which is more or less distinct from the two previous analyses, is from Grammaire du persan contemporain by Gilbert Lazard. In this book ezafe constructions are divided into five major types and each type is, in turn, divided into one or more sub-types. The five major types of ezafe are established on the basis of morphologically defined categories and then semantic features of the constituents of ezafe constructions are used for determining the sub-types.

---

[2] Farokh claims that Persian has a construction that looks like an ezafe construction and in which the determined is either an adverb or a preposition. He calls this construction an illusory ezafe. But he concludes that if an adverb or a preposition could function as the determined in an ezafe construction, one may call it a noun rather than an adverb or a preposition. The example given for this ezafe is:

zir-e	divar
beneath	wall

'under the wall'

As apparent from this example the ezafe construction in which the determined is one of the morphemes zir 'under', bala 'above', pošt 'behind', ruy 'upon'. täräf 'in the direction of', etc., is a case of ezafe of possession expressing a partitive relation between the determiner and the determined.

Lazard includes ezafe in word-formation and states that a broad classification of ezafe constructions on the basis of the relationships between the determined and the determiners would yield the following types of ezafe:

1. Ezafe of modification in which an adjective or a participle modifies the determined.[3]

25. a. ab-e gärm
water-par. hot

'hot water'

b. ruz-e gozäšte
day-par. passed

'the day which passed

2. Ezafe of location in which the determiner is an adverb or an adverbial phrase.

26. a. jävanan-e emruz
youth-par. today

'modern youth'

b. ruz-e bä?d äz an etefaq
day-par. after that incident

'the day after that incident'

3. Ezafe of qualification in which a noun or an infinitive modifies the quality or substance of the determined. Lazard maintains that ezafe of qualification can be further divided into the following sub-types according to the nature of the relationships between its

---

[3] In order to avoid unnecessary complexity, we will use the same examples for all three classifications as far as possible. These examples are sufficient to illustrate the range of ezafe.

constituents.

27. a. origin

ab-e	češme
water-par.	spring

'spring water'

b. material or substance

taj-e	zär
crown-par.	gold

'the gold crown'

c. appropriation

ab-e	xordän
water-par.	to drink

'water to drink'

d. product

ab-e	häyat
water-par.	life

'the water which is life-giving'

e. metaphoric

läb-e	lä?l
lip-par.	ruby

'ruby lip'

4. Ezafe of possession in which the determiner is either a noun or an infinitive. This ezafe construction, according to Lazard, can either express the relation of a thing possessed and the possessor between the determined and the determiner, or such relations as source, objective, partitive, and locative.

28. a. ownership

xane-ye	häsän
house-par.	Hassan

'Hassan's house'

b. source

ab-e cešme
water-par. spring

'the water of the spring'

c. objective

pul-e nahar
money-par. lunch

'lunch money'

d. partitive

där-e xane
door-par. house

'the door of the house'

e. locative

täräf-e tehran
side-par. Tehran

'in the direction of Tehran'

5. Ezafe of specification or apposition in which the determiner is a proper noun.

29. šähr-e tehran
city-par. Tehran

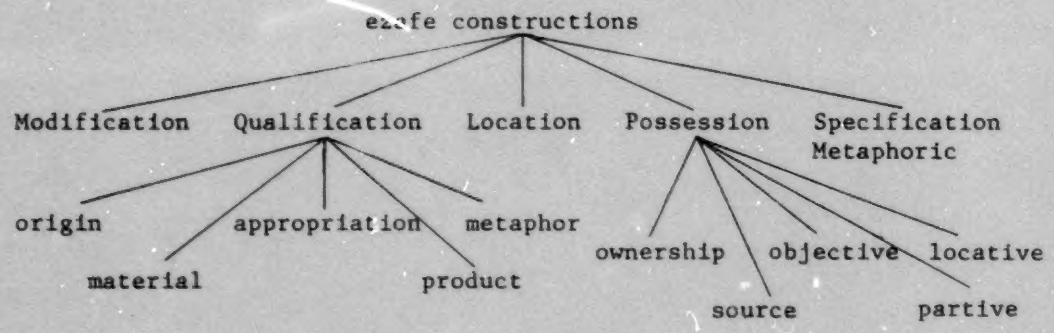
'the city which is Tehran'

Lazard also calls ezafe of similarity as the metaphoric form of ezafe of specification. For example:

30. lä?l-e läb
ruby-par. lip

'the ruby of the lip' (Lazard 1957:62-66).

Thus Lazard's classification of ezafe constructions would appear as in the following diagram:


ezafe constructions
Modification
Qualification
Location
Possession
Specification
Metaphoric
origin
material
appropriation
product
metaphor
ownership
source
objective
partive
locative

Lazard has also observed that a construction such as 27a or 28b can simultaneously belong to ezafe of qualification and ezafe of possession. He stipulates that this difference depends on whether one means the virtual source (origin) of the water as in 27a or its actual source as in 28b.

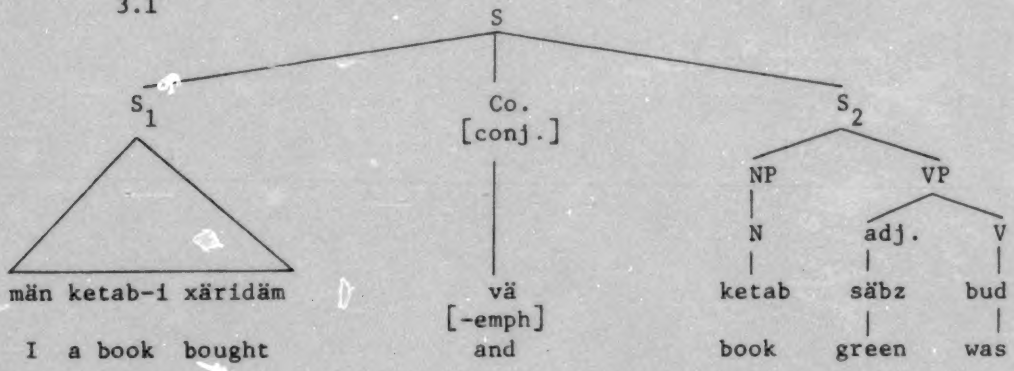
3.3 Analysis of Ezafe

From the previous discussion of the three classifications of ezafe constructions, we have discovered that the grammarians often do not agree among themselves as to the number of ezafe types in Persian. We observed, for example, that as far as major ezafe types are concerned, Bahar considers ezafe of modification the same as ezafe of qualification and ezafe of specification. Farokh, on the other hand, maintains that ezafe of modification is distinct from ezafe of qualification and that ezafe of specification belongs to ezafe of qualification. But Lazard thinks these are three entirely different types of ezafe constructions. Again, while Bahar considers ezafe of allocation as distinct from ezafe of possession, for Farokh and Lazard this distinction is not relevant at all.

The reason for this disparity is that in the previous classifications ezafe constructions are not subjected to the correct analysis. That is, instead of analyzing ezafe as a contracted form of an independent clause, the reader is provided with a description of a determiner in a surface ezafe construction, and some general remarks about the relationships between the determined and the determiner. But if one views ezafe as a syntactic process through which an underlying clause is transformed into a phrase, a simpler description which contains all the necessary information about various ezafe constructions results. According to this view all ezafe constructions are divided into three classes.

One class of ezafe constructions results from a reduction in the structures that are identical with the underlying form of the relative clauses, but in which the second conjunct contains the copula budän 'be' plus an adjective or other part of speech (participle, noun, adverb) functioning as an adjective. The following figure presents the bare underlying form of an ezafe construction in which the determiner is an adjective.

3.1



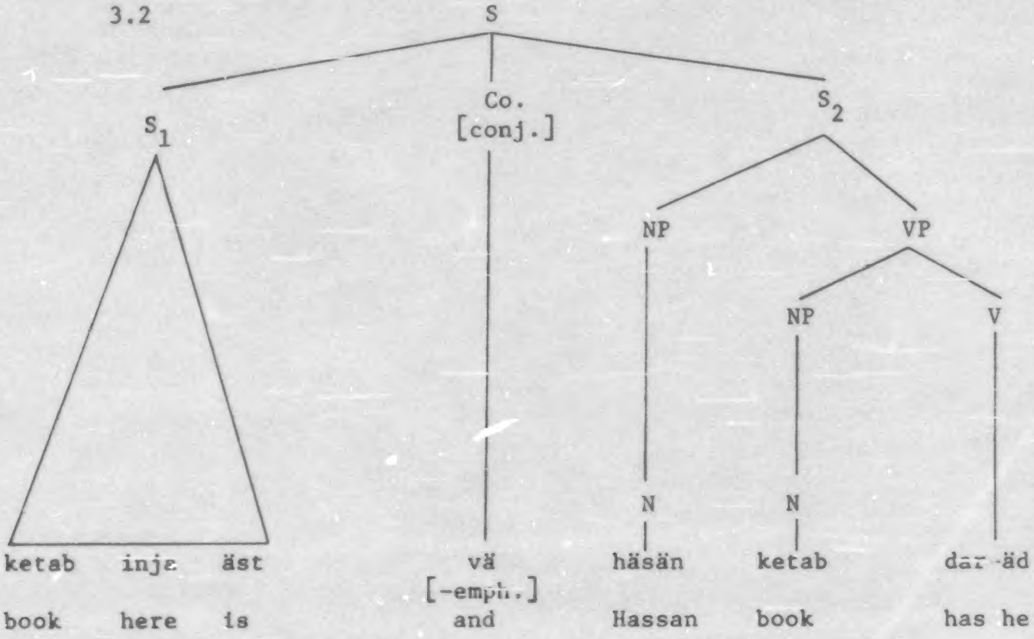
ketab-e säbz-i xäridäm
book-par green-indef. I bought

'I bought a green book'

In this analysis we will use the term ezafe of qualification to cover all the constructions which are derived from structures like 3.1. In an ezafe of qualification the determiner expresses either the quality, material, or the substance of the determined. Among the ezafe types established by Farokh and Lazard, the ezafe of modification, ezafe of qualification, and ezafe of location are derived from structure 3.1 or similar structures and thus fall under the broad ezafe of qualification.

Another class of ezafe constructions in this language results from the contraction of structures which consist of two conjoined sentences and in which the second conjunct contains the verb daštän 'have', 'possess' plus a noun. This structure is depicted in Figure 3.2 below.

3.2


S
S1
Co.
[conj.]
S2
NP
VP
NP
V
N
N
ketab inja äst
book here is
vä
[-emph.]
and
häsän
Hassan
ketab
book
dar-äd
has he

ketab-e häsän inja äst
book-par. Hassan here is

'Hassan's book is here'

The surface ezafe constructions that are derived from this structure can be collectively called ezafe of possession. This class of ezafe constructions expresses such relationships as ownership, partitive, locative, and source between the determiner and the determined. The ezafe of allocation recognized by Bahar falls under this class of ezafe.

In this description there is no need for postulating an ezafe of similarity as was done by both Bahar and Farokh. The constructions that are classified under ezafe of similarity are either the metaphoric forms of the ezafe of qualification if the determiner functions as an adjective as in example 5, or the metaphoric version of ezafe of possession if the determiner is a noun as in example 6.

Under this analysis the unmotivated distinction made between example 27a and 28b is clarified in that both examples are only paraphrasable into a single coordinated sentence with the verb daštän 'have' and are, therefore, one and the same instance of ezafe of possession.

The postulation of structures 3.1 and 3.2 as the respective deep structures of qualificative and possessive ezafe is motivated by the observation that in Persian for each complex sentence containing a qualificative ezafe (adjectival construction) as in sentence 31a there is a semantically equivalent conjoined sentence as in 31b.

31. a. ketab-e säbz-i xärid-äm
book-par. green-indef. bought I

'I bought a green book'

b. ketab-i xärid-äm vä ketab säbz bud
book-indef. bought I and the book green was it

'I bought a green book'

Similarly, for every complex sentence with a possessive (genitive construction) ezafe as in sentence 32a, there is a semantically equivalent but formally different conjoined sentence as in 32b.

32. a. ketab-e häsän inja äst
book-par. Hassan here is

'Hassan's book is here'

b. ketab-i inja äst vä häsän ketab dar-äd
a book here is and Hassan book has he

'Hassan's book is here'

Although the conjoined sentences in examples 31b and 32b are not used in practice, their possible occurrence in this language indicates that ezafe constructions, like relative clauses, originate from conjoined sentences.

Alongside the two classes of ezafe constructions discussed thus far, there is a third class of constructions which has a superficial resemblence to ezafe of qualification and ezafe of possession in that they all occur with the ezafe particle e. This class of ezafe includes the following constructions.

1. The ezafe construction which consists of a title and a proper noun and for which there is no apparent paraphrase in this language.

33. aqa-ye bähmän
Mr. Bahman

'Mr. Bahman'

34. jenab-e väzir
his excellency the minister

'His Excellency the Minister'

2. The archaic ezafe construction form which expresses a genetic relationship.

35. rostäm-e zal
Rustam of Zal

'Rustam the son of Zal'

This relation is rendered in Modern Persian as:

36. rostäm pesär-e zal
Rustam the son of Zal

'Rustam the son of Zal'

in which the ezafe is now clearly one of possession.

3. The ezafe construction in which the determiner is an infinitive.

37. ab-e xordän
the water to drink

'drinking water'

38. moqe?-e räftän
the time to go

'time to go'

4. The ezafe construction in which the determined is an infinitive and the determiner is interpreted as either the deep structure subject or object of the determined.

39. räftän-e šoma
to go of you

'your going'

40. koštän-e u
to kill of he

'his killing'

This particular sub-class (4) of ezafe constructions is formed by truncating a complement clause into an infinitive construction. In this truncation the verb of the complement clause is changed into an infinitive, the whole predicate including the object noun phrase is transposed to the left of the subject, and the ezafe particle is added after the infinitive. The changes for the complement clause with both intransitive and transitive verbs is shown by the following notation.

41. subject + verb → infinitive-e + subject
häsän räft → räftän-e häsan

'Hassan went' 'Hassan's going'

42. subject + object + verb → object + inf.-e + subject
häsän ketab xärid → ketab xäridän-e häsän

'Hassan bought the book' 'Hassan's buying of the book'

The truncation of a complement clause which in effect is a nominalization process is restricted to the complement clauses which occur with a special set of verbs in Persian. That is, the nominalization of the complement clause is strictly determined by the matrix verb and it is not possible to nominalize any complement clause in any context. As an illustration of this point consider the sentences in examples 43 and 44 in which nominalization results in perfectly grammatical sentences, and those in examples 45 and 46 where nominalization yields ungrammatical strings.

43. a. mosäläm äst ke u mi-rev-äd
certain is it that he ind. go he

'It is certain that he will go'

b. räftän-e u mosäläm äst
to go of he certain is it

'That he will go is certain'

44. a. män tärjih mi-deh-äm ke u be-rev-äd
I preference give I that he subj. go he

b. män räftän-e u-ra tärjih mi-deh-äm
I to go of him preference give I

'I prefer that he would go'

45. a. momken äst ke u be-rev-äd
possible is it that he subj. go he

'It is possible that he will go'

b. * räftän-e u momken äst
to go of he possible is it

46. a. män dästur dad-äm ke u be-rev-äd
I order gave I that he subj. go he

'I order him to go'

b. * män räftän-e u-ra dästur dad-äm
I to go of him order gave I

3.4 The Derivation of Ezafe

In the preceding section it was stated that the ezafe constructions which express qualification and possession result from a series of transformations applied to the structures diagrammed in figures 3.1 and 3.2 respectively. These transformations, which involve the addition, substitution, and deletion of some constituents in these structures, and are parallel to the changes made for the formation of relative clauses up to a certain stage in the derivation, can be summarized in the form of the following ordered rules.

1. In a deep structure conjoined sentence where two clauses connected by the coordinator *vä* have a coreferential noun, add *ke* in front of the second clause from the left in the string.

2. Delete the coordinator *vä* when it immediately precedes *ke*.

3. Replace the coreferential nouns in all clauses except the initial clause with an appropriate personal pronoun.

4. Delete the pronoun in the second clause if it functions as either the subject or direct object of the clause.

5. If the verbal node in the second conjunct contains the connecting verbs budän 'be' or daštän 'have' delete the verb.

6. Delete the conjunctive ke whenever it precedes a clause in which the verbal node is empty.

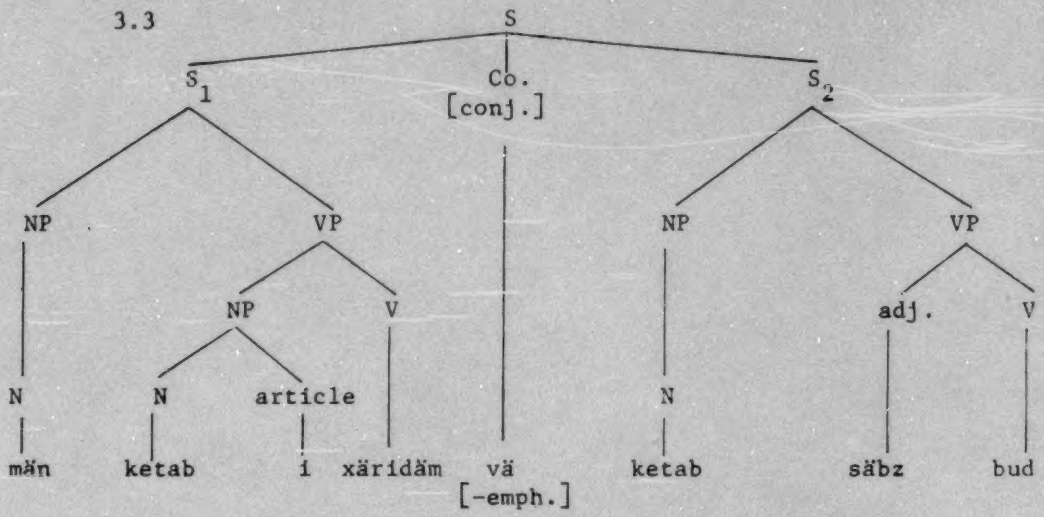
7. Delete any remaining preposition in the second conjunct.

8. Move the second conjunct to the extreme right of the coreferential noun in the initial conjunct, before the indefinite article (if any).

9. Insert the ezafe particle e after the first of any two constituents, which are both dominated by the same NP node except when the second constituent is a ke-clause.

For illustration in the diagrams below we trace the structural changes that are produced by the application of these rules as well as the pruning principles to structure 3.1.

3.3

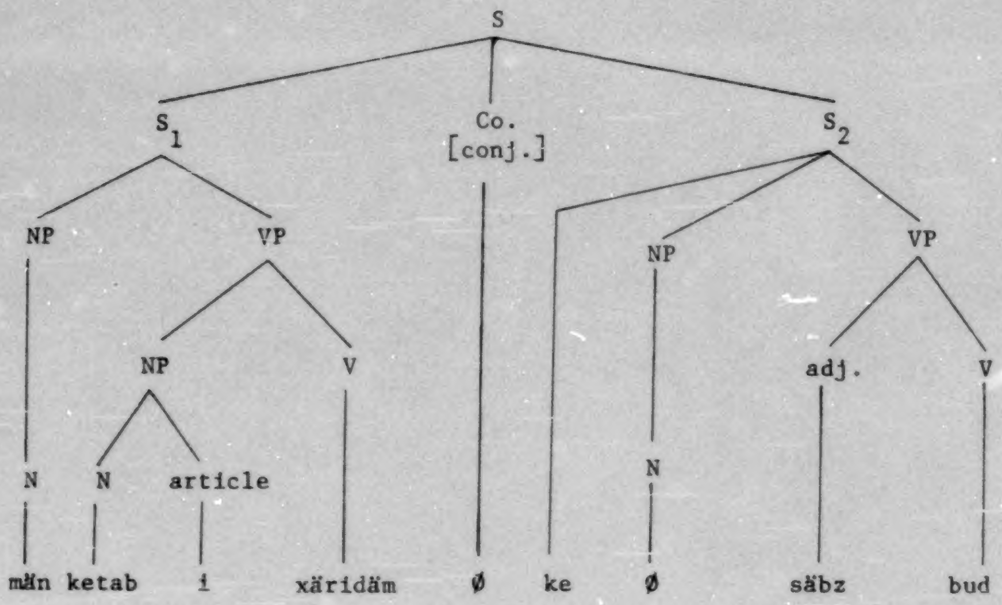


ke insertion

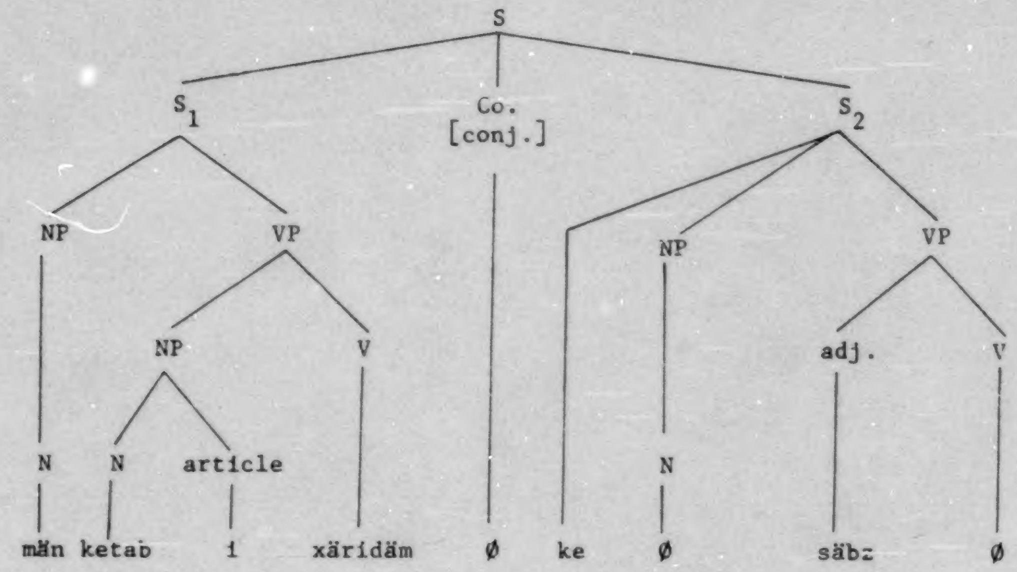
vä deletion

pronominalization

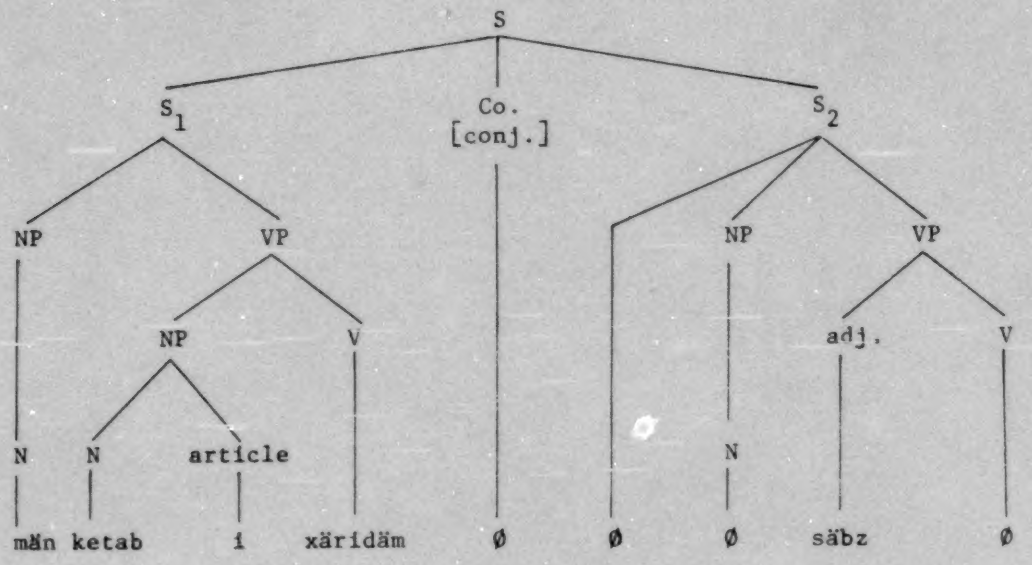
pronoun deletion


S
S_1
Co.
[conj.]
S_2
NP
VP
NP
VP
NP
V
adj.
V
N
N
article
N
män ketab i xäridäm Ø ke Ø säbz bud

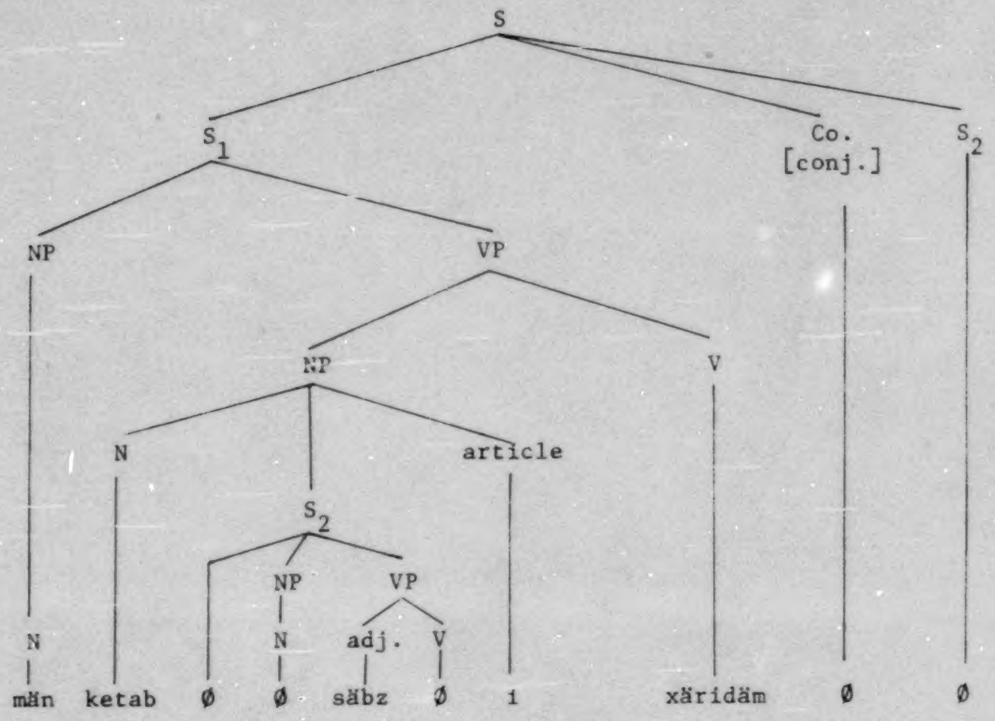
copula deletion


S
S_1
Co.
[conj.]
S_2
NP
VP
NP
VP
NP
V
adj.
V
N
N
article
N
män ketab i xäridäm Ø ke Ø säbz Ø

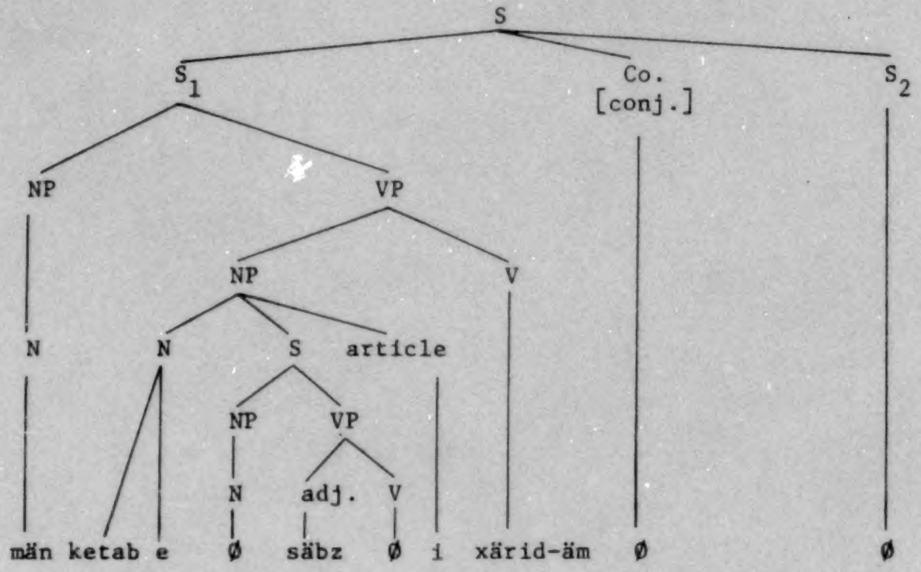
ke deletion


S
S_1
Co.
[conj.]
S_2
NP
VP
NP
VP
NP
V
adj.
V
N
N
article
N
män
ketab
i
xäridäm
0
0
0
säbz
0

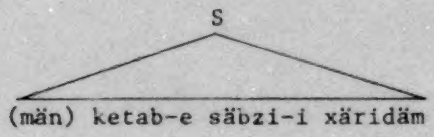
ezafe insertion


S
S_1
Co.
[conj.]
S_2
NP
VP
NP
V
N
article
S_2
NP
VP
N
N
adj.
V
män
ketab
0
0
säbz
0
i
xäridäm
0
0

ezafe particle addition


S
S_1
Co.
[conj.]
S_2
NP
VP
NP
V
N
N
S
article
NP
VP
N
adj.
V
män ketab e
Ø
säbz
Ø
i
xärid-äm
Ø
Ø

Pruning principle


S
(män) ketab-e säbzi-i xäridäm

'I bought a green book.'

In the derivation presented above the preposition deletion transformation was not applicable. A structure which meets the conditions for the application of all ezafe transformations (1-9) is given in the derivation of the following sentence.

Base

pul	ruye	miz	äst	vä	pul	bäraye	nahar	äst
the money	on	the table	is it	and	the money	for	lunch	is it

ke insertion

vä deletion

pronominalization

pronoun deletion

copula deletion

ke deletion

pul ruye miz äst bäraye nahar
the money on the table is it for lunch

preposition deletion

pul ruye miz äst nahar

ezafe insertion

pul nahar ruye miz äst

particle addition

pul-e nahar ruye miz äst
the money par. lunch on the table is it

'The lunch money is on the table.'

3.5 Ezafe Chain

Ezafe constructions are not limited to a determined followed by a determiner. One interesting aspect of the ezafe construction is that theoretically an unlimited number of constituents may appear in an ezafe construction and form the so-called ezafe chain. The relation among the constituents in an ezafe chain varies from one class of ezafe construction to another and can be summarized in this manner.

a. If all the determiners in an ezafe chain are of an attributive type (adjectives or participles), then the determined is simultaneously modified by an array of determiners which occur after it in the chain. Since in this type of ezafe chain each determiner refers to the determined independently a change in the order of the determiners can make only the following subtle difference in meaning.

The determiner standing next to the determined is felt to be tightly bonded to the determined semantically and signals its main quality. The prominence of the determiners shifts in variance with their distance from the determined.

47. ketab-e siyah-e bozorg
the book par. black par. big

'the black book which is big'

48. ketab-e bozorg-e siyah
the book par. big par. black

'the big book which is black'

If the determined is modified by several attributive determiners but with no specific prominence among the determiners, then the attributive determiners are coordinated and this construction as a whole is connected to the determined by means of the ezafe particle.

49. a. ketab-e siyah vä bozorg
the book par. black and big

'the book which is black and big'

b. ketab-e bozorg vä siyah
the book par. big and black

'the book which is big and black'

b. If the determiners of an ezafe chain are of the possessive type (nouns or pronouns) the relation among the constituents in the chain is significantly different in that each constituent is uniquely related to the constituent immediately to its right. Any change in the order of the constituents in the chain results in either a nonsensical phrase or an entirely different construction.

50. ketab-e pesär-e bäradär-e šoma
the book par. son par. brother par. you

'your nephew's book'

c. If the ezafe chain contains both attributive and possessive determiners, the attributive determiners must immediately follow the constituents which they modify.

51. divar-e sefid-e xane-ye šoma
the wall par. white par. the house par. you

'the white wall of your house'

52. divar-e xane-ye sefid-e šoma
the wall par. the house par. white par. you

'the wall of your white house'

The specific order of the constituents in surface ezafe chains is determined by their deep structure semantic components and is accounted for by the phrase structure rules of the grammar. The derivation of ezafe chains is, however, a matter of the syntactic component of the grammar and is not different from the derivation of a single ezafe construction. The derivation of an ezafe chain is accomplished by the iterative application of the ezafe transformations (1-9). The following example illustrates the derivation of an ezafe chain in which, according to our analysis, the matrix sentence and the second conjunct initially serve as an input to the application of ezafe rules. Then the newly derived matrix sentence and the third conjunct become eligible for the application of ezafe rules. This process continues until the string of conjuncts is exhausted. Finally the ezafe particle addition, which is a post-cyclic rule, applies to the entire string and inserts e after all constituents in the ezafe chain which meet the conditions for its application.

BASE

ketab gom šod
the book lost got it

vä ketab säbz äst
and the book green is it

vä pesär ketab dar-äd
and the son the book has he

vä bäradär pesär dar-äd
and the brother the son has he

vä män bäradär dar-äm
and I the brother have I

1st cycle

(rules 1-8)

ketab säbz gom šod

vä pesär ketab dar-äd

vä bäradär pesär dar-äd

vä män bäradär dar-äm

2nd cycle

(rules 1-8)

ketab säbz pesär gom šod

vä bäradär pesär dar-äd

vä män bäradär dar-äm

3rd cycle

(rules 1-8)

ketab säbz pesär bäradär gom šod

vä män bäradär dar-äm

4th cycle

(rules 1-8)

ketab säbz pesär bäradär män gom šod

post cycle

(ezafe particle addition)

ketab-e	säbz-e	pesär-e	bäradär-e	män	gom	šod
the book par.	green par.	the son par.	the brother par.	I	lost	got it

'The green book of my nephew was lost.'

CHAPTER 4

COMPLEMENT CLAUSES

4.1 Definition

At the outset of this description it was stated that complex sentences in this language were formed either by means of coordination or subordination. It was further noted that in coordination or conjunction two or more constituents with the same grammatical function are strung together. In Chapter One we dealt with the conjunctive, disjunctive, and adversative clauses which are formed through coordination. In Chapter Two relativization or the formation of the restrictive and non-restrictive relative clauses was discussed. In Chapter Three the derivation of the ezafe construction as a contraction of some specific coordinated clauses was described. In this final chapter we will deal with a complex sentence in which one of the component clauses known as the complement or completive clause serves as a supplement to the verb of the principal clause. The complex sentences below exemplify the structures generated by this subordinating process known as complementation.

1. momken äst ke mina ketab-ra be-xär-äd
   possible is it that Mina the book subj. buy she

   'It is possible that Mina will buy the book'

2. vazeh äst ke mina ketab-ra mi-xär-äd
   obvious is it that Mina the book ind. buy she

   'It is obvious that Mina will buy the book'

3. be-näzär mi-res-äd ke mina ketab-ra be-xär-äd
to look ind. reach it that Mina the book subj. buy she

'It seems that Mina will buy the book'

4. mina mi-xah-äd ke ketab-ra be-xär-äd
Mina ind. want she that the book subj. buy she

'Mina wants to buy the book'

5. mina tärjih mi-deh-äd ke ketab-ra be-xär-äd
Mina preference ind. give she that the book subj. buy she

'Mina prefers to buy the book'

6. (män) bavär mi-kon-äm ke mina ketab-ra be-xär-äd
I belief ind. make I that Mina the book subj. buy she

'I believe that Mina will buy the book'

7. (män) yäqin dar-äm ke mina ketab-ra mi-xär-äd
I certainty have I that Mina the book ind. buy she

'I am sure that Mina will buy the book'

8. (män) be-mina dästur dad-äm ke ketab-ra be-xär-äd
I to Mina order gave I that book subj. buy she

'I ordered Mina to buy the book'

9. (män) tä?äjob kärd-äm ke mina ketab-ra xär-id
I surprise made I that Mina the book buy she

'I was surprised that Mina bought the book'

10. (män) xošhal-äm ke mina ketab-ra xär-id
I happy am I that Mina the book bought she

'I am happy that Mina bought the book'

11. (män) mina-ra vadar kärd-äm ke ketab-ra be-xär-äd
I Mina forced made I that the book subj. buy she

'I forced Mina to buy the book'

12. (män) mina vä näsrin-ra vadar kärd-äm ke ketab-ra
I Mina and Nasrin forced made I that the book
be-xär-änd
subj. buy they

'I forced both Mina and Nasrin to buy the book'

13. mina mä-ra vadar kärd ke ketab-ra be-xär-äm
Mina me forced made she that the book subj. buy I

'Mina forced me to buy the book'

14. mina vä näsrin mä-ra vadar kärd-änd ke ketab-ra
Mina and Nasrin me forced made they that the book

be-xär-äm
subj. buy I

'Mina and Nasrin forced me to buy the book'

15. mina be-män goft ke ketab-ra bäraye xod-äm be-xär-äm
Mina to I said she that the book for self I subj. buy I

'Mina told me to buy the book for myself'

16. näsrin be-mina goft ke ketab-ra bäraye u be-xär-äd
Nasrin to Mina said she that the book for her subj. buy she

'Nasrin told Mina to buy the book for her'

17. näsrin be-mina goft ke ketab-ra bäraye xod-äš
Nasrin to Mina said she that the book for self her

be-xär-äd
subj. buy she

'Nasrin told Mina to buy the book for herself'

18. (män) xošhal-äm ke näsrin mina-ra vadar-kärd ke
I happy am I that Nasrin Mina forced made she that

ketab-ra be-xär-äd
the book subj. buy she

'I am happy that Nasrin forced Mina to buy the book'

19. (män) be-mina goft-äm ke be-näsrin dästur dad-äm ke
I to Mina told I that to Nasrin order gave I that

ketab-ra be-xär-äd
the book subj. buy she

'I told Nasrin that I ordered Mina to buy the book'

20. momken äst ke näsrin mina-ra mäjbur be-kon-äd
possible is it that Nasrin Mina forced subj. make she

ke ketab-ra be-xär-äd
that the book subj. buy she

'It is possible that Nasrin will force Mina to buy the book'

The formation of the complex sentences through complementation, as shown by these examples, is subject to the following conditions.

A complement clause occurs once and only once at a particular grammatical level. In other words, no sentence can be found in this language which contains more than one complement clause at a time.

However, a complement clause in this language can contain another complement within itself. That is, complementation, is recursive in nature with no restriction on the depth of the complement clauses within a complex sentence.

A complement clause in Persian is either connected to the main clause by the universal connecting morpheme ke 'that', or it is introduced after the main clause paratactically.

21. a. meil dar-äm ke be afriqa mosaferät kon-äm
desire have I that to Africa travel make I

'I would like to travel to Africa'

b. meil dar-äm be afriqa mosaferät kon-äm
desire have I to Africa travel make I

'I would like to travel to Africa'

The use of the connecting ke with the complement clause is dictated by stylistic considerations and hence is not a part of the syntactic description. For the purpose of this study we assume that this morpheme accompanies all complement clauses in their deep structures and is optionally deleted in the surface sentences.

A complement clause can occur only in conjunction with a specific class of verbs in the language. This class of verbs, which includes impersonal, intransitive, and transitive verbs is listed in Appendix I. Among the members of this class, some verbs occur exclusively with a complement. This is particularly true of the impersonal and some intransitive verbs. Other verbs in this class, however, can occur either with a complement clause or as ordinary verbs requiring noun phrases as their object. This feature is characteristic of most of the transitive verbs.

The overlap between the predicates which can take a complement clause and those which cannot is reflected in the phrase structure rule, 3b, given below. As to the question of which verb phrases do require a complement clause and which verb phrases do not require a complement clause, it is maintained here that this information is a part of feature specification of individual verbs and is presumably recorded in the lexicon once and for all. Hence it is not a part of the syntactic description.

There is neither any formal nor any functional evidence in Persian by which one could establish the status of the complement clause as the subject or object of the main sentence. That is, contrary to the assumption that complement clauses, at some pretransformational level, are embedded in subject or object noun phrases, a complement clause in Persian appears to be nothing more than a full sentence which serves as a supplement to the verb of the main sentence and without which the meaning of the principal clause is incomplete. The analysis of the complement clause as an argument to the predicate of the main sentence (verb phrase complementation) is motivated by three major considerations.

First, the pseudo-cleft and passive transformations used as the syntactic criteria to distinguish between the noun phrase and verb phrase complementation in English, even if they are reliable, fail to yield similar results in Persian. Of these two processes the pseudo-cleft transformation results in ungrammatical sentences in Persian and hence must be an exclusive feature of the English language.

In addition, the passive transformation has a much narrower range in Persian than in English and is employed exclusively in these two situations:

(a) when the identity of the agent is unknown to the speaker.

22. märd košte šod
the man killed become

'The man got killed.'

(b) when the speaker's emphasis is focused on the object of the sentence.

23. in name be däst-e män nevešte šod
this letter in hand of I written was

'This letter was written by me.'

Second, a complement clause in Persian always occurs at the end of the main sentence, and its treatment as either the subject or object is not compatible with the word order, agreement, and government among the constituents of a sentence, as summarized below.

(a) Any constituent which functions as the subject of a sentence occurs in the initial position or after a time adverbial, and is either in complete (person and number) or incomplete (person) agreement with the verb of the sentence.

24. u färda hätmän mi-rev-äd
he tomorrow for sure ind. go he

'He will go tomorrow for sure.'

25. färda u hätmän mi-rev-äd
tomorrow he for sure ind. go he

'Tomorrow he will go for sure.'

(b) Any constituent functioning as the direct object of a transitive verb must occur immediately before the verb, and if it is specific and definite it is obligatorily marked by the post-position -ra.

26. u ketab xär-id
he book bought he

'He bought a book.'

27. u ketab-ra xär-id
he the book bought he

'He bought the book.'

(c) Any constituent which functions as the indirect object of a double object verb occurs immediately before this verb and is governed by the post-positions be 'to', äz 'from', ba 'with', and där 'in'.

28. män ketab-ra be-u dad-äm
I the book to him gave I

'I gave the book to him.'

29. män ketab-ra äz-u gereft-äm
I the book from him took I

'I took the book from him.'

30. u där-ra ba kelid-äš baz kärd
he the door with key his open made he

'He opened the door with his key.'

31. u kelid-ra där otaq ja gozašt
he the key in the room left he

'He left the key in the room.'

Third, in Persian a complement clause may occur within a sentence which already contains a subject, a direct object, and an indirect object, as in this example.

32. (män) ketab-ra be-u dad-äm ke be-xan-äd
I the book to him gave I that subj. read he

'I gave him the book to read.'

On the basis of these characteristics the complement clause in Persian must be generated by the following phrase structure rule.

1. $VP \longrightarrow (NP)\ V\ [ke\ S]$

This phrase structure rule, henceforth referred to as the complementation rule, states that in Persian some but not all verb phrases, consisting either of a transitive, intransitive, or impersonal verb, can be accompanied by a complement clause. That is, the complementation rule is an abbreviated version of the three phrase structure rules below.

2. a. $VP \longrightarrow NP\ V\ [ke\ S]$ (transitive)
b. $VP \longrightarrow V\ [ke\ S]$ (intransitive)
c. $VP \longrightarrow V\ [ke\ S]$ (impersonal)

The complementation rule itself is a part of the Persian phrase structure rules presented in this notation:

3. a. $S \longrightarrow NP\ VP$
b. $VP \longrightarrow \begin{Bmatrix} (NP) & (PP) & V \\ (NP) & V & [ke\ S] \end{Bmatrix}$

c. $NP \longrightarrow \begin{Bmatrix} N \\ IP \end{Bmatrix}$

d. $IP \longrightarrow$ in

4.2 Types of Complement Construction

A complement clause, or 'mokkammel' as it is called in Persian, can occur as the supplement to three different verb groups and gives rise to the following structures:

1. A complement clause can occur with the 'impersonal verbs' like momken budän, 'be possible', lazem budän, 'be necessary', vazeh budän, 'be obvious', be-näzär residän, 'appear, seem'.

```
33. momken   äst  ke   emšäb   baran  be-ay-äd
    possible is it that tonight rain subj. come it
```

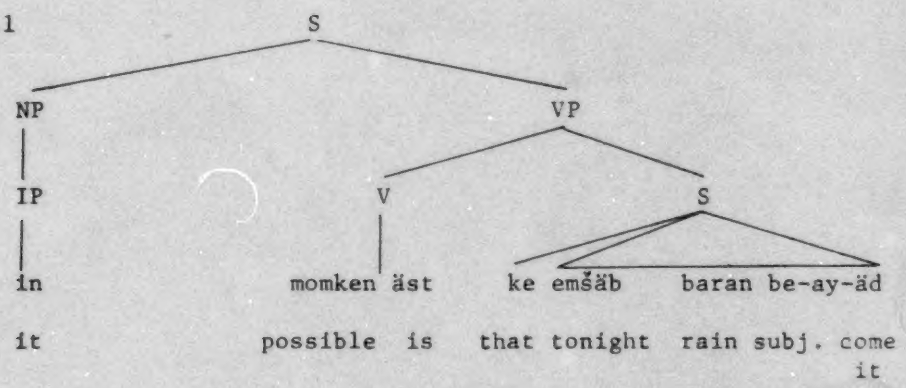
'It is possible that it will rain tonight'

```
34. ehtemal      dar-äd ke   u  emruz  be-rev-äd
    possibility has it that he today subj. go he
```

'It is possible that he will go today'

The deep structure of these constructions could be depicted in this phrase-marker.

4.1



This type of complementation, which is roughly equivalent to the so-called subject noun phrase complement in English, will be referred to as complement clause with impersonal verbs.

2. The complement clause can occur with intransitive verbs like *yäqin daštän*, 'be sure', *fekr kärdän*, 'think', *tärjih dadän*, 'prefer', *täsmim gereftän*, 'decide', etc.

35. yäqin dar-äm ke emšäb baran mi-ay-äd
certainty have I that tonight rain ind. come it

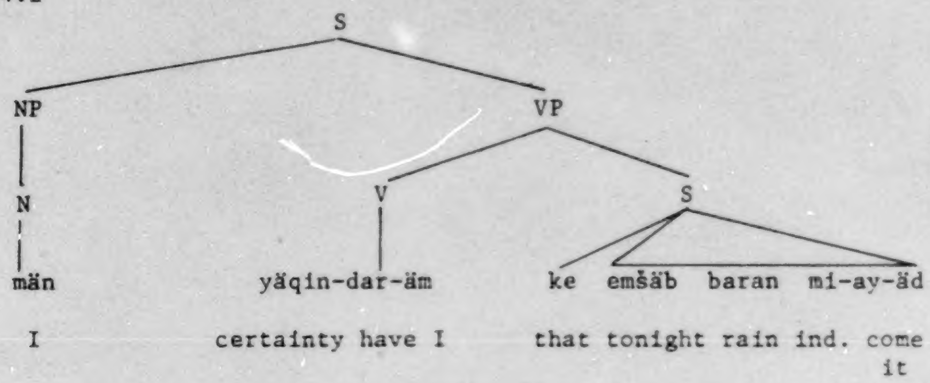
'I am sure it will rain tonight'

36. fekr mi-kon-äm ke u emruz nä-yay-äd
thought ind. make I that he today not come he

'I think he will not come today'

The deep structure of these constructions is shown in the following phrase marker.

4.2



This type of complement clause that corresponds to the object noun phrases in English will be called the complement clause with intransitive verbs. As implied by our terminology, the difference between these structures and those complements occurring with impersonal verbs is that in the latter the subject of the principal clause is the indefinite pronoun *in*, 'it', while in the former structures the subject of the principal sentence can be any noun or pronoun other than the indefinite pronoun.

3. The complement clause can occur as a supplement to

transitive verbs like vadar kärdän, 'force', mäjbur kärdän, 'compel', dästur dadän, 'order', täšviq kärdän, 'persuade', etc.

37. (män) mina-ra vadar kärd-äm ke be-rev-äd
I Mina forced made I that subj. go she

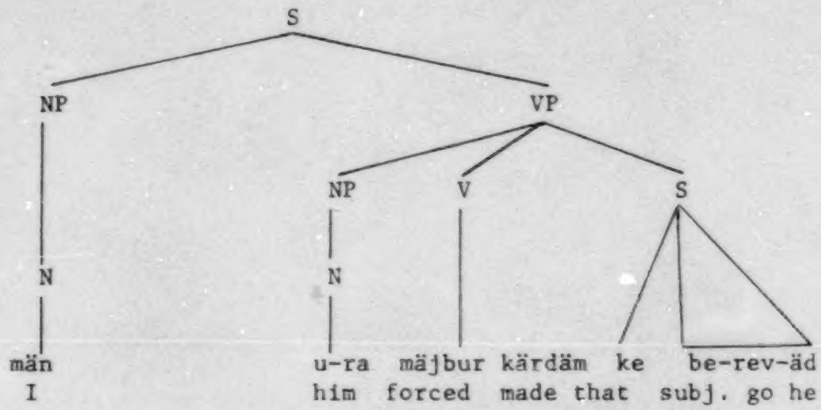
'I forced Mina to go'

38. (män) be-mina dästur dad-äm ke be-rev-äd
I to Mina order gave I that subj. go she

'I ordered Mina to go'

The deep structure of these constructions is represented in this phase-marker.

4.3



This type of complement, which includes the so-called oblique noun phrase complements in English, is called the complement clause with transitive verbs.

4.3 Indicative and Subjunctive Complement

In Persian a complement clause is in either the indicative or the subjunctive mood. The mood of the complement clause is dependent upon the assumption or the presupposition of the speaker. That is to say, if the speaker presupposes that the action or situation expressed by the complement clause is, or has been a real possibility, then the complement clause is in the indicative mood.

39. män yäqin dar-äm ke u färda mi-rev-äd
I certainty have I that he tomorrow ind. go he

'I am sure that he will go tomorrow'

The indicative is marked in Persian by the addition of the prefix *mi-* before the present stem. The past indicative is unmarked.

40. män yäqin dar-äm ke u räfte äst
I certainty have I that he gone is he

'I am sure that he has gone'

If the speaker assumes that the situation expressed by the complement clause is not a real possibility, the complement clause is in the subjunctive mood.

41. män meil dar-äm ke u färda be-rev-äd
I desire have I that he tomorrow subj. go he

'I wish he would go tomorrow'

The subjunctive is marked by the addition of the prefix *be-* before the present stem. The past subjunctive in Persian is formed by combining the past participle of a simple verb with the subjunctive form of the verb *budän*, 'to be' i.e., *baš*.

42. (män) goman mi-kon-äm ke där bäste baš-äd
I belief ind.-make I that the door close be it

'I believe that the door is closed'

The subjunctive marker is not added before the present stem of the verbs which are preceded by the negative prefix *nä*.

43. (män) meil dar-äm ke u färda nä-rev-äd
I desire have I that he tomorrow not go he

'I want him not to go tomorrow'

The use of the subjunctive marker with the compound verbs is optional in Persian.

44a. (u) meil dar-äd ba šoma bazi be-kon-äd
he desire has he with you play subj. do he

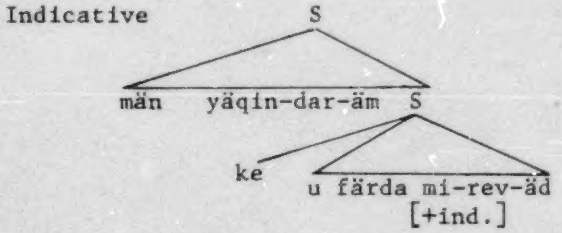
'He wants to play with you'

b. (u) meil dar-äd ba šoma bazi kon-äd
he desire has he with you play do he

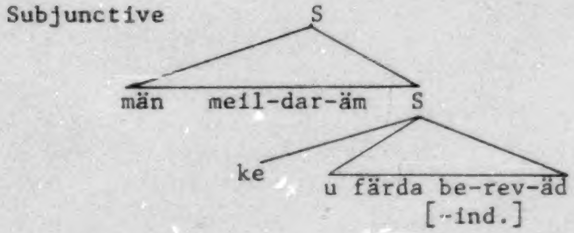
'He wants to play with you'

The use of the indicative versus subjunctive mood is not restricted to the complement clauses and recurs in coordinated and subordinated clauses. The contrast between indicative and subjunctive complement clauses is specified by use of the features [+indicative] and [-indicative] respectively on the verb of the complement clause as shown here.

4.4


Indicative
S
män
yäqin-dar-äm
S
ke
u färda mi-rev-äd
[+ind.]

4.5


Subjunctive
S
män
meil-dar-äm
S
ke
u färda be-rev-äd
[-ind.]

4.4 The Tense and Aspect in Complement Clause

Unlike other subordinated clauses (conditional, causal, concessive, etc.) where the tense and aspect in the dependent clause is determined by the tense and aspect of the independent clause, the complement clause is not subject to tense sequence restriction. The tense sequence between the principal sentence and its complement clause is usually determined by the context of speech and hence makes possible a variety of tense combinations summarized below.

Both the main clause and the complement clause are in the present tense.

45a. (u) mi-xah-äd be tehran be-rev-äd
he ind. want he to Tehran subj. go he

'He wants to go to Tehran'

b. šayäd (u) be orupa be-rev-äd
may be it he to Europe subj. go he

'He may go to Europe'

c. momken äst (ke) u be-yay-äd
possible is it that he subj. come he

'It is possible that he will come'

d. omidvar-äm be-šoma xoš be-gozär-äd
hopeful am I to you good subj. pass it

'I hope you will have a good time'

The main clause is in past tense but the complement clause is in present tense.

46a. (u) mi-xast be tehran be-rev-äd
he ind. wanted to Tehran subj. go he

'He wanted to go to Tehran'

b. šayäd (u) be orupa be-rev-äd
may be it he to Europe subj. go he

'He may go to Europe'

c. momken bud (ke) u be-yay-äd
possible was it that he subj. come he

'It was possible that he would come'

d. omidvar bud-äm (ke) be-šoma xoš be-gozär-äd
hopeful was I that to you good subj. pass it

'I hoped that you would have a good time'

Both the main clause and the complement clause are in past tense.

47a. (män) u-ra vadar kärd-äm räft
I him forced made I went he

'I forced him to go'

b. šayäd (u) be orupa räfte baš-äd
may be it he to Europe gone subj. was he

'He may have gone to Europe'

c. omidvar bud-äm (ke) be-šoma xoš gozäšte
hopeful was I that to you good passed

baš-äd
subj. was it

'I hoped you were having a good time'

The main clause is in present tense but the complement clause is in past tense.

48a. momken äst (ke) u amäde baš-äd
possible is it that he come subj. was he

'It is possible that he has come'

b. omidvar-äm (ke) be-šoma xoš gozäšte baš-äd
hopeful am I that to you good passed subj. was it

'I hope you had a good time'

With the exception of a few suppletive forms, the tense in Persian is signaled by the phonologically related past and present stems. That is, in Persian the verb stems are not only the carrier of the basic meaning of the verbs, but they also express the tense of the verb as well. The present and past stem are, in the majority of cases, derivable from a common root by means of a few phonological rules. The suppletive forms, in which the past and present stems are not phonologically related, are perhaps the result of blending of two semantically related verbs. For example, suppletive stems like häst, 'is', and bud, 'was', are possibly the result of the blending of the verbs hästän, 'to exist', and budän, 'to be'.

In compound verbs, however, the tense is expressed by past and present stems of the auxiliaries kärdän, 'to make', šodän, 'become', and budän, 'to be', while the semantic load is conveyed by a substantive (noun, adjective, past participle).

Much like the tense combinations, the aspect of the verb in the complement clause is not subject to particular sequential restrictions, as shown in the following examples.

49a. (u) ehsas kärd ke dar-äd xäste mi-šev-äd
he feeling made that has he tired ind. became he

'He felt that he was getting tired'

b. (u) dašt ehsas mi-kärd ke dar-äd
he had feeling ind. made that has he

xäste mi-šev-äd
tired ind. became he

'He was feeling that he was getting tired'

c. (u) ehsas mi-kon-äd ke dar-äd
he feeling ind. make he that has he

xäste mi-šev-äd
tired ind. became he

'He feels that he is getting tired'

50. (män) mi-dan-äm ke šoma anja nä-räfte bud-id
I ind.-know I that you there not gone was you

'I know that you had not gone there'

The perfective aspect in Persian is formed by combining the past participle of the verb with the present or past stem of the copula.

The durative aspect is formed by adding the prefix mi- before present and past stems of the verb, with or without the use of the auxiliary verb daštän, 'have'.

4.5 Transformations

A complement clause is subject to a relatively small and uniform set of transformations, regardless of whether it occurs as a supplement to an impersonal, intransitive, or transitive verb. The transformations involved in the generation of the complex sentence with a complement clause can, for simplicity, be given in the form of the following instructions. These transformations are obligatory unless it is indicated otherwise and they apply in this particular order.

1. Agreement transformation: In any deep structure sentence copy the person of the subject noun phrase into the verb. If the subject noun phrase consists of animate plural or coordinated nouns mark the verb

[-singular]. Otherwise mark the verb [+singular].

2. Identical noun deletion: If a noun in the complement clause is coreferential with a noun in the main sentence, delete the noun in the complement clause.

3. Pronoun deletion: (a) If the subject of the principal sentence is the indefinite pronoun in, 'it', and it has undergone the agreement transformation, it is always obligatorily deleted. (b) If the subject of a sentence is a definite pronoun and it has undergone the agreement transformation, it can be optionally deleted. We refer to case (a) as the indefinite pronoun deletion and case (b) as the definite pronoun deletion.

4. Complementizer deletion (optional): In any complex sentence containing a complement clause, the connecting morphene ke can be optionally deleted.

5. Subjunctive transformation: Add the prefix be- before all simple non-negative present stems, change the past stems into the past participle (past stem + e), and add the present subjunctive form of the verb budän 'be' (i.e., baš) if the verb stems are marked as [-indicative]. Otherwise add mi- before all present stems except the stems häst 'is' and dar 'have'.

6. Affix transformation: Attach the proper suffixes after the past and/or present stems in accordance with the number and person specifications recorded in the verb of every simple sentence.

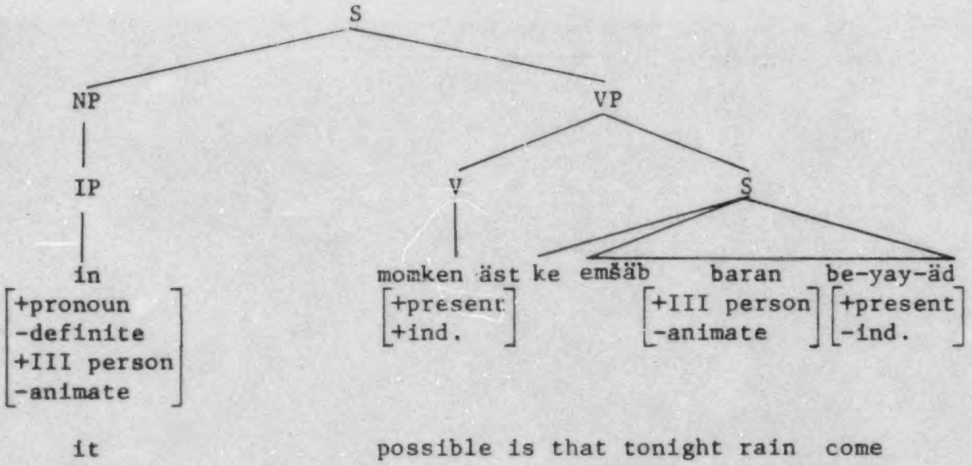
4.6 Derivation

In the preceding sections we started with the formal properties of the surface complement constructions, discussed the possible types of complement clauses, the phrase structure rules for generating the deep structure of the complement clauses, and the basic transformations for mapping their deep structure into surface sentences. In this section we will represent the derivation of each type of complement clause through the interlock of the proposed phrase structure and transformation rules. At each stage of derivation we will only present the syntactic features or structural specifications which are necessary for the application of a particular rule. If the deletion of a constituent is optional throughout this derivation, that particular constituent will be enclosed in parenthesis.

Complement clause with impersonal verbs. The term complement clause with impersonal verbs refers to the instances where a sentence is first unfolded into a noun phrase and a verb phrase, and then, the verb phrase, in accordance with the complementation rule, is expanded into a verb and a complement clause. The noun phrase in the main sentence goes into the indefinite pronoun in, 'it'. This expansion is expressed by these phrase structure rules and is diagrammed in the tree below.

a. S → NP VP
b. VP → V [ke S]
c. NP → IP
d. IP → in

4.6


S
NP
VP
IP
V
S
in
+pronoun
-definite
+III person
-animate
momken äst
+present
+ind.
ke
emšäb
baran
+III person
-animate
be-yay-äd
+present
-ind.
it
possible is that tonight rain come

The structure presented in this configuration is mapped into a surface sentence by means of the following transformations.

BASE

in	momken äst	ke	emšäb	baran	ay
+pronoun -definite +III person -animate	+present +ind.			+III person -animate	+present -ind.
it	possible be	that	tonight	rain	come

Agreement transformation

in	momken	äst	ke	emšäb	baran	ay
+pronoun -definite +III person -animate		+present +ind. +III person +sing.			+III person -animate	+present -ind. +III person +sing.

Identical noun deletion

not applicable

Indefinite pronoun deletion

momken	äst	ke	emšäb	baran	ay
	+present +ind. +III person +sing.			+III person -animate	+present -ind. +III person +sing.

ke deletion (optional)

momken	äst	(ke)	emšäb	baran	ay
	+present +ind. +III person +sing.			+III person -animate	+present -ind. +III person +sing.

Subjunctive transformation

momken	äst	emšäb	baran	be + ay
	+present +III person +sing.		+III person -animate	+present +III person +sing.

Affix transformation

momken äst emšäb baran be + ay-äd

Morphophonemics

momken äst emšäb baran beyayäd
possible is it tonight rain come it

'It is possible that it will rain tonight.'

Complement clause with intransitive verbs. The designation complement clause with intransitive verb is used for the cases in which the principal clause is expanded into a noun phrase and a verb phrase. The verb phrase, in turn, is expanded into a verb and a complement clause. The verb in these constructions is usually an intransitive verb. This expansion is stated by means of the phrase structural rules below and accompanying tree diagram.

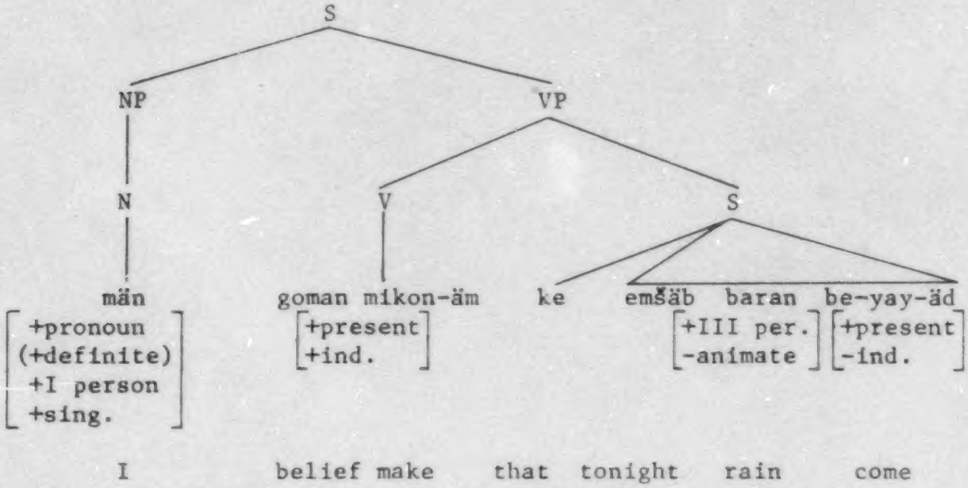
a. S ⟶ NP VP

b. VP ⟶ V [ke S]

c. NP ⟶ N

This complement construction differs from those with the impersonal verb in that in the latter the subject of the main clause is always the indefinite pronoun (IP) in, 'it', while in the former the subject noun phrase terminates in a definite pronoun or a noun.

4.7


S
NP
VP
N
V
S
män
+pronoun
(+definite)
+I person
+sing.
goman mikon-äm
+present
+ind.
ke
emšäb
baran
+III per.
-animate
be-yay-äd
+present
-ind.
I
belief make
that
tonight
rain
come

This structure is converted into a surface sentence through these transformations.

BASE

män	goman	kön	ke	emšäb	baran	ay
+pronoun (+definite) +I person +sing.		+present +ind.			+III per. -animate	+present -ind.
I	belief	make	that	tonight	rain	come

Agreement transformation

$$\begin{array}{ccccccc} \text{män} & \text{goman} & \text{kon} & \text{ke} & \text{emšäb} & \text{baran} & \text{ay} \\ \begin{bmatrix}\text{+pronoun}\\ \text{+I person}\\ \text{+singular}\end{bmatrix} & & \begin{bmatrix}\text{+present}\\ \text{+ind.}\\ \text{+I person}\\ \text{+singular}\end{bmatrix} & & & \begin{bmatrix}\text{+III person}\\ \text{-animate}\end{bmatrix} & \begin{bmatrix}\text{+present}\\ \text{-ind.}\\ \text{+III person}\\ \text{+singular}\end{bmatrix} \end{array}$$

Identical noun deletion

not applicable

Definite pronoun deletion

$$\begin{array}{ccccccc} \text{(män)} & \text{goman} & \text{kon} & \text{ke} & \text{emšäb} & \text{baran} & \text{ay} \\ \begin{bmatrix}\text{+pronoun}\\ \text{+I person}\\ \text{+singular}\end{bmatrix} & & \begin{bmatrix}\text{+present}\\ \text{+ind.}\\ \text{+I person}\\ \text{+singular}\end{bmatrix} & & & \begin{bmatrix}\text{+III person}\\ \text{-animate}\end{bmatrix} & \begin{bmatrix}\text{+present}\\ \text{-ind.}\\ \text{+III person}\\ \text{+singular}\end{bmatrix} \end{array}$$

ke deletion (optional)

$$\begin{array}{ccccccc} \text{(män)} & \text{goman} & \text{kon} & \text{(ke)} & \text{emšäb} & \text{baran} & \text{ay} \\ & & \begin{bmatrix}\text{+present}\\ \text{+ind.}\\ \text{+I person}\\ \text{+singular}\end{bmatrix} & & & \begin{bmatrix}\text{+III per.}\\ \text{-animate}\end{bmatrix} & \begin{bmatrix}\text{+present}\\ \text{-ind.}\\ \text{+III person}\\ \text{+singular}\end{bmatrix} \end{array}$$

Subjunctive transformation

$$\begin{array}{cccccc} \text{(män)} & \text{goman} & \text{mi + kon} & \text{(ke) emšäb} & \text{baran} & \text{be + ay} \\ & & \begin{bmatrix}\text{+present}\\ \text{+I person}\\ \text{+singular}\end{bmatrix} & & \begin{bmatrix}\text{+III per.}\\ \text{-animate}\end{bmatrix} & \begin{bmatrix}\text{+present}\\ \text{+III per.}\\ \text{+singular}\end{bmatrix} \end{array}$$

Affix transformation

(män) goman mi + kon-äm (ke) emšäb baran be + ay-äd

Morphophonemics

goman	mikonäm	emšäb	baran	beyayäd
belief	make I	tonight	rain	come it

'I believe it will rain tonight.'

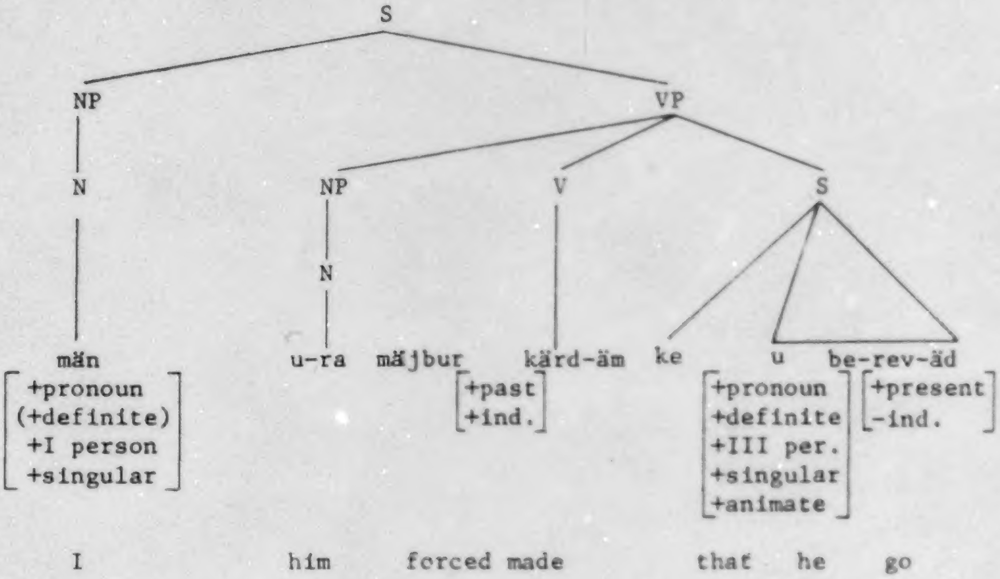
Complement clause with transitive verbs. The complement clause with a transitive verb refers to those structures in which the main clause unfolds into a noun phrase and a verb phrase, which, in accordance with the complementation rule, is expanded into a noun phrase, a verb, and a complement clause. The following phrase structure rules depict this expansion.

a. S —> NP VP

b. VP —> NP V [ke S]

c. NP —> N

4.8


S
NP
VP
N
NP
V
S
N
män
+pronoun
(+definite)
+I person
+singular
u-ra
mäjbur
kärd-äm
+past
+ind.
ke
u
+pronoun
+definite
+III per.
+singular
+animate
be-rev-äd
+present
-ind.
I
him
forced made
that
he
go

This structure is converted into a surface sentence by the application of this set of rules.

BASE

män	u-ra	mäjbur	kärd	ke	u	rev
+pronoun (+definite) +I person +singular			+past +indicative		+pronoun +definite +III per. +singular +animate	+present -ind.

Agreement transformation

män	u-ra	mäjbur	kärd	ke	u	rev
+pronoun +definite +I person +singular			+past +indicative +I person +singular		+pronoun +definite +III per. +singular	+present -indicative +III per. +singular

Identical noun deletion

män	u-ra	mäjbur	kärd	ke	rev
+pronoun +definite +I person +singular			+past +indicative +I person +singular		+present -indicative +III person +singular

Definite pronoun deletion

(män)	u-ra	mäjbur	kärd	ke	rev
			+past +indicative +I person +singular		+present -indicative +III person +singular

ke deletion (optional)

(män)	u-ra	mäjbur	kärd	(ke)	rev
			+past +indicative +I person +singular		+present -indicative +III person +singular

Subjunctive transformation

(män)	u-ra	mäjbur	kärd	(ke)	be + rev
			+past +I person +singular		+ present +III person +singular

Affix transformation

(män) u-ra mäjbur kärd-äm (ke) be + rev-äd

Morphophonemics

u-ra	mäjbur	kärdäm	bereväd
him	forced	made I	go he

'I forced him to go.'

CONCLUSIONS

Complex sentences in Persian are formed either by means of coordination, in which none of the component clauses functions as a constituent of another, or subordination, in which one component clause functions as a constituent of another. A coordinated sentence is either a conjunctive, disjunctive, or an adversative compound. A conjunctive compound is either non-emphatic or emphatic, a disjunctive compound is either alternative or ultimative, and an adversative compound is either contrastive (oppositive) or exceptional.

A non-emphatic conjunctive compound with two clauses, each containing a copy of a coreferential noun, is relativized before undergoing coordination, under the following conditions.

Relativization is obligatory if the leftmost coreferential noun (antecedent) is marked [+definite] and optional if the leftmost coreferential noun is marked [-definite]. If the coreferential noun is further specified as [+unique] the second clause is inserted after the NP node which dominates the antecedent. If it is marked [+definite] and [-unique] the second clause is inserted under the NP node dominating the antecedent.

A non-emphatic conjunctive compound undergoes the ezafe transformation prior to relativization if the second clause from the left contains either the verbs budän 'be' or daštän 'have'.

If an NP node dominates a noun and a sentence the relative particle i is added after the noun. If an NP node dominates a noun and any other constituent except S the ezafe particle e is introduced after the noun.

In complex sentences formed through subordination a clause is embedded either in an adverbial node or in the predicate of the principal sentence. The subordinated clauses which originate from an adverbial node are not discussed in this work. The subordinated clauses embedded in the predicate are known as complement clauses and may occur as arguments of impersonal, intransitive, or transitive verbs. Whether a verb requires or permits a complement clause is part of the lexical specifications of that verb.

BIBLIOGRAPHY

Persian

Abaev, V. I. 1964. A grammatical sketch of Ossetic, ed. by Herbert H. Paper and trans. by Steven P. Hill. Bloomington: Indiana University Research Center in Anthropology, Folklore, and Linguistics.

Abdulla, Jamal, J. and Ernest N. McCarus. 1967. Kurdish basic course: dialect of Sulaimania, Iraq. Ann Arbor: The University of Michigan Press.

Bahar, M. T., Q. Rashid-yasami, A. Qarib, J. Homai, and B. Foruzanfar. 1938. Dastur-e zaban-e farsi. Tehran: Piruz.

Barker, Muhammad A. and Aqil Khan Mengal. 1969. A course in Baluchi. Montreal: McGill University.

Browne, Edward G. 1928. Literary history of Persia. Cambridge: University Press.

Elwell-Sutton, Laurence P. 1963. Elementary Persian grammar. Cambridge: University Press.

Farokh, H. A. 1958. Dastur-e jame?-e zaban-e farsi. ed. by R. H. Farokh. Tehran: Elmi.

Ferguson, Charles A. 1957. Word stress in Persian. Language 33. 123-35.

Haim, Soleiman. 1956. The shorter English-Persian dictionary. 2nd ed. Tehran: Y. Beroukhim.

_______. 1963. The shorter Persian-English dictionary. 3rd ed. Tehran: Y. Beroukhim.

Hodge, Carleton T. 1957. Some aspects of Persian style. Language 33.355-69.

_______. 1958. Review of Gilbert Lazard, grammaire du persan contemporain. Language 34.111-21.

Lambton, Ann K. S. 1953. Persian grammar. Cambridge: University Press.

Lazard, Gilbert. 1957. Grammaire du persan contemporain. Paris: Librairie C. Klincksieck.

Levy, Reuben. 1951. The Persian language. London: Hutchinson House.

MacKenzie, D. N. 1961. Kurdish dialect studies--I. London: Oxford University Press.

Mahmoudi, Jalil. 1967. Reading and writing Persian. Salt Lake City: University of Utah.

Meillet, Antoine. 1915. Grammaire du vieux perse. Paris: E. Guilmoto.

Natel-Khanlari, Parviz. 1966. Zaban shenasi va zaban-e farsi. Bonyad-e farhang-e Iran (no. 45). Tehran: Elmi.

Nye, Gertrude E. 1955. The phonemes and morphemes of Modern Persian: a descriptive study. Unpublished doctoral dissertation, University of Michigan.

Paper, Herbert H. and Mohammad A. Jazayery. 1955. The writing system of Modern Persian. Washington: American Council of Learned Societies.

Paper, Herbert H. 1959. Review of Lazard, Gilbert, grammaire du persan contemporain. Journal of American Oriental Society 79. 31-39.

Rastorgueva, V. S. 1963. A short sketch of Tajik grammar, trans. and ed. by Herbert H. Paper. Bloomington: Indiana University Research Center in Anthropology, Folklore, and Linguistics.

______. 1964. A short sketch of the grammar of Persian, trans. by Steven P. Hill and ed. by Herbert H. Paper. Bloomington: Indiana University Research Center in Anthropology, Folklore, and Linguistics.

Rypka, Jan. 1968. History of Iranian literature, ed. by Karl Jahn. Dordrecht--Holland: D. Reidel Publishing Company.

Scott, Charles T. 1964. Syllable structure of Tehran Persian. Anthropological Linguistics 6.1.27-30.

Shafeev, D. A. 1964. A short grammatical outline of Pashto, trans. and ed. by Herbert H. Paper. Bloomington: Indiana University Research Center in Anthropology, Folklore, and Linguistics.

Yarmohammadi, Lotfollah. 1965. A constrastive study of Modern English and Modern Persian. Unpublished doctoral dissertation, Indiana University.

Yar--Shater, Ehsan. 1969. A grammar of Southern Tati dialects. The Hague: Mouton.

Linguistics

Annear, Sandra Thompson. 1971. The deep structure of relative clauses. In Fillmore and Langendoen, 279-94.

Bach, Emmon, and Robert T. Harms (eds.). 1968. Universals in linguistic theory. New York: Holt, Rinehart and Winston.

Bierwisch, Manfred, and Karl Erich Heidolph (eds.). 1970. Progress in linguistics: a collection of papers. The Hague: Mouton.

Block, Bernard, and George L. Trager. 1942. Outline of linguistic analysis. (Linguistic Society of America: special publication). Baltimore: Waverly Press.

Bloomfield, Leonard. 1933. Language. New York: Holt, Rinehart, and Winston.

Bowers, Fredrick. 1968. English complex sentence formation. Journal of Linguistics 4.83-8.

Chafe, L. Wallace. 1970. Meaning and the structure of language. Chicago: The University of Chicago Press.

Chomsky, Noam. 1952. Systems of syntactic analysis. The Journal of Symbolic Logic 18.242-56.

_______. 1965. Aspects of the theory of syntax. Cambridge, Mass.: The MIT Press.

_______. 1969. Deep structure, surface structure, and semantic interpretation. Mimeographed paper, Indiana University Linguistics Circle.

Dik, Simon C. 1968. Coordination: its implication for the theory of general linguistics. Amsterdam: North-Holland Publishing. Co.

Dougherty, Ray C. 1970. A grammar of coordinate conjoined structures: I. Language 46.850-98.

_______. 1971. A grammar of coordinate conjoined structures: II. Language 47.298-339.

Fillmore, Charles J. 1968. The case for case. In Bach and Harms, 1-88.

Fodor, Jerry A., and Jerrold J. Katz (eds.). 1964. The structure of language: Readings in the Philosophy of Language. Englewood Cliffs, N. J.: Prentice-Hall, Inc.

Francis, Nelson W. 1958. The structure of American English. New York: The Ronald Press Company.

Gleason, H. A. Jr. 1961. An introduction to descriptive linguistics. rev. ed. New York: Holt, Rinehart and Winston.

Gleitman, Lila R. 1969. Coordinating conjunctions in English. In Reibel and Schane, 80-112.

Greenberg, Joseph H. (ed.). 1966. Universlas of language. 2nd ed. Cambridge, Mass.: The MIT Press.

Jacobs, Roderick A., and Peter S. Rosenbaum. 1968. English transformational grammar. Waltham, Mass.: Blaisdell Publishing Company.

_______. 1970. Readings in English transformational grammar. Waltham, Mass.: Ginn and Company.

Jespersen, Otto. 1964. Essentials of English grammar. Forge Village, Mass.: Murray Printing Company.

Kiparsky, Paul, and Carol Kiparsky. 1970. Fact*. In Bierwisch and Heidolph, 143-72.

Lakoff, George. 1968a. Instrumental adverbs and the concept of deep structure. Foundations of Language 4.4-29.

_______. 1968b. Deep and surface grammar. Mimeographed paper, Indiana University Linguistics Club.

_______, and Stanley Peters. 1969. Phrasal conjunction and symmetric predicates. In Reibel and Schane, 113-42.

_______. 1971. The role of reduction in grammar. In Fillmore and Langendoen, 63-70.

Lakoff, Robin T. 1968. Abstract syntax and Latin complementation. (Research monograph no. 49). Cambridge, Mass.: The MIT Press.

Langacker, Ronald W. 1968. Language and its structure: some fundamental linguistic concepts. New York: Harcourt, Brace and World.

Langendoen, Terence D. 1969. The study of syntax: the generative-transformational approach to the structure of American English. New York: Holt, Rinehart, and Winston.

Lee, Robert B. 1960. The grammar of English nominalizarion. The Hague: Mouton.

Loflin, Marvin D. 1968. A note on verb phrase complementation. Journal of Linguistics 4.285-6.

Moore, Terence. 1970. Review of the grammar of English predicate complement constructions, by Peter S. Rosenbaum. Language 46.460-71.

Reibel, David A., and Sanford A. Schane (eds.). 1969. Modern studies in English: readings in transformational grammar. Englewood Cliffs, N. J.: Prentice-Hall.

Rosenbaum, Peter S. 1967a. The grammar of English predicate complement constructions. (Research monograph no. 47). Cambridge, Mass.: The MIT Press.

_______. 1967b. Phrase structure principles of English complex sentence formation. Journal of Linguistics 3.103-18.

_______. 1970. The principle governing deletion in English sentential complementation. In Jacobs and Rosenbaum, 20-29.

Ross, John R. 1968. Gapping and the order of constituents. Mimeographed paper, Indiana University Linguistics Club.

Sapir, Edward. 1921. Language: an introduction to the study of speech. New York: Harcourt, Brace and World.

Sledd, James. 1959. A short introduction to English grammar. Chicago: Scott, Foresman and Company.

Smith, Carlota S. 1964. Determiners and relative clauses in a generative grammar of English. Language 40.37-52.

Stockwell, Robert P., Paul Schachter, and Barbara Hall Partee. 1973. The major syntactic structures of English. New York: Holt, Rinehart, and Winston.

Wagner, Heinz K. 1968. Verb phrase complementation: a criticism. Journal of Linguistics 4.89-91.

APPENDIX I

Below is the list of the more frequently used verbs which occur with a complement clause in Persian. This class of verbs consists of the impersonal, intransitive, and transitive verbs. The classification of these verbs into impersonal, intransitive, and transitive is based on their structural behavior presented by the phrase structure rules 3. and does not coincide with the traditional classification of these verbs. Some of the verbs in this list can be used either transitively or intransitively.

I. Impersonal Verbs

1.	bädihi budän	'be obvious'
2.	bayestän	'be essential'
3.	bä?id budän	'be improbable', 'be remote'
4.	behtär budän	'be better'
5.	benäzär amedän	'appear'
6.	benäzär residän	'seem'
7.	delalät daštän	'be indicative'
8.	ehtemal daštän räftän	'be probable'
9.	emkan daštän	'be possible'
10.	entezar räftän	'be anticipated'
11.	etefaq oftadän	'happen'
12.	häqiqät daštän	'be true'
13.	ijab kärdän	'necessitate'
14.	kafi budän	'be sufficient'
15.	lazem budän	'be necessary'

16.	lazem šodän	'get necessary'
17.	mämnu? budän	'be forbidden'
18.	mämnu? šodän	'get forbidden'
19.	mä?lum budän	'be evident'
20.	mä?lum šodän	'get evident'
21.	mä?ni daštän	'make sense'
22.	mohem budän	'be important'
23.	mohtämel budän	'be probable'
24.	momken budän	'be possible'
25.	mosäläm budän	'be certain'
26.	mosäläm šodän	'get certain'
27.	omid räftän budän	'be hoped'
28.	qädäqän budän	'be prohibited'
29.	qärar šodän	'be decreed'
30.	rošän budän	'be clear'
31.	täbi?i budän	'be natural'
32.	sälah budän	'be expedient'
33.	šayeste budän	'be appropriate'
34.	sezavar budän	'be just'
35.	vazeh budän	'be obvious'
36.	xub budän	'be proper', 'be good'

II. Intransitive Verbs

1.	agah budän	'be aware'
2.	äfzudän	'add'
3.	arezu daštän	'wish'
4.	asekar kärdän	'reveal'

5.	äz-yad bordän	'forget'
6.	bavär kärdän	'believe'
7.	ba?äs šodän	'cause'
8.	bä?id danestän	'consider remote'
9.	bexater avärdän	'recall'
10.	bexater daštän	'remember'
11.	danestän	'know'
12.	där-näzär daštän	'have in mind'
13.	därxast kärdän	'request'
14.	däryaftän	'understand'
15.	dästur daštän	'have authority'
16.	didän	'see'
17.	dust daštän	'like'
18.	eda?a kärdän	'claim'
19.	efša kärdän	'divulge'
20.	ehsas kärdän	'feel'
21.	ejaze xastän	'ask permission'
22.	entezar daštän	'expect'
23.	eqrar kärdän	'confess'
24.	ešare kärdän	'refer'
25.	esrar kärdän	'insist'
26.	eštebah kärdän	'err'
27.	etela? daštän	'get informed'
28.	estedlal kärdän	'reason'
29.	estenbat kärdän	'infer', 'deduce'
30.	estentaj kärdän	'conclude'
31.	etminan daštän	'have confidence'

32.	ez?an kärdän	'acknowledge'
33.	e?lam kärdän	'declare'
34.	e?temad daštän	'be confident'
35.	e?teqad daštän	'believe in'
36.	e?teraf kärdän	'confess'
37.	fähmidän	'understand'
38.	färz kärdän	'assume'
39.	färamuš kärdän	'forget'
40.	fekr kärdän	'think', 'believe'
41.	forsät kärdän	'find an occassion'
42.	goftän	'say', 'state'
43.	goman kärdän	'believe', 'think', 'suppose'
44.	govahi dadän	'attest'
45.	gozareš dadän	'report'
46.	gozaštän	'let'
47.	häds zädän	'surmise', 'guess'
48.	haki budän	'indicate'
49.	hes kärdän	'feel'
50.	hesab kärdän	'reckon'
51.	jävab dadän	'reply'
52.	käšf kärdän	'discover'
53.	kušeš kärdän	'try'
54.	kušidän	'try', 'attempt'
55.	meil daštän	'desire'
56.	mäjbur budän	'be forced'
57.	mäjbur šodän	'get forced'
58.	mojaz budän	'be allowed'

59.	mujeb šodän	'cause'
60.	molaheze kärdän	'observe'
61.	montäzer budän	'wait'
62.	moqärär daštän	'decree'
63.	mosammäm šodän	'decide'
64.	moštaq budän	'be eager'
65.	motäväqe? budän	'expect'
66.	motmäen budän	'be confident'
67.	motäqa?ed budän	'have belief'
68.	narahät budän	'be distrubed'
69.	narahät šodän	'get disturbed'
70.	nätije gereftän	'conclude'
71.	näzär dadän	'express opinion'
72.	negäran budän	'be worried'
73.	negäran šodän	'get worried'
74.	nešan dadän	'show'
75.	omid daštän	'hope', 'aspire'
76.	omidvar budän	'be hopeful'
77.	pišbini kärdän	'foresee'
78.	pišgui kärdän	'prophecy'
79.	pišnähad kärdän	'suggest'
80.	porsidän	'ask'
81.	qäbul kärdän	'consent', 'admit'
82.	qärar gozaštän	'agree'
83.	qezavät kärdän	'judge'
84.	qowl dadän	'promise'
85.	rezayät dadän	'give consent'

86.	säbäb šodän	'cause'
87.	sabet kärdän	'prove'
88.	säbr kärdän	'wait'
89.	šäk daštän	'hesitate'
90.	šäk kärdän	'doubt'
91.	sä?y kärdän	'try'
92.	sefareš kärdän	'advise', 'recommend'
93.	šenidän	'hear'
94.	täkid kärdän	'emphasize'
95.	täyid kärdän	'confirm'
96.	täqaza kärdän	'request'
97.	tärdid daštän	'doubt'
98.	tärjih dadän	'prefer'
99.	tärsidän	'fear'
100.	täsävor kärdän	'imagine'
101.	täsdiq kärdän	'attest', 'approve'
102.	täsmim gereftän	'decide'
103.	täsrih kärdän	'explicate'
104.	täsvib kärdän	'approve'
105.	tävafoq kärdän	'agree'
106.	tävanestän	'be able'
107.	tä?ähod kärdän	'guarantee'
108.	tä?äjob kärdän	'wonder'
109.	tofiq yaftän	'succeed'
110.	tozih dadän	'explain'
111.	vadar šodän	'be forced'
112.	xab didän	'dream'

113.	xäbär daštän	'know'
114.	xastän	'want'
115.	xiyal kärdän	'imagine'
116.	xošhal budän	'be happy'
117.	xošhal šodän	'get happy'
118.	xošnud budän	'be pleased'
119.	yad daštän	'remember'
120.	yad-avär šodän	'warn'
121.	yäqin daštän	'be certain'
122.	zämanät kärdän	'guarantee'
123.	?adät daštän	'used to'
124.	?adät kärdän	'get accustomed'
125.	?äjäle daštän	'hasten'
126.	?älaqe daštän	'incline'
127.	?älaqemänd budän	'be interested'
128.	?äqide daštän	'have belief'
129.	?äsäbani šodän	'get angry'

III. Transitive Verbs

1.	därxast kärdän	'request from'
2.	dästur dadän	'order'
3.	dä?vät kärdän	'invite'
4.	eblaq kärdän	'notify'
5.	ejaze dadän	'allow'
6.	entezar daštän	'expect', 'anticipate'
7.	eqva kärdän	'intice', 'tempt'
8.	etela? dadän	'inform someone'

9.	etminan dadän	'assure'
10.	extar kärdän	'warn someone'
11.	fähmandän	'cause someone to understand'
12.	färmudän	'order'
13.	gozareš dadän	'report to someone'
14.	gozaštän	'permit someone'
15.	hemayät kärdän	'advocate'
16.	hošdar dadän	'alert someone'
17.	jävab dadän	'reply to'
18.	jelogiri kärdän	'prevent'
19.	komäk kärdän	'assist'
20.	mämuriyät dadän	'give commission'
21.	män? kärdän	'prohibit someone'
22.	mojaz saxtän	'allow someone'
23.	motähäm kärdän	'accuse someone'
24.	motäqa?ed kärdän	'convince'
25.	motmäen saxtän	'assure someone'
26.	motäzäker saxtän	'remind someone'
27.	narahät kärdän	'disturb'
28.	näsihät kärdän	'advise', 'admonish'
29.	pišnähad kärdän	'suggest to someone'
30.	qowl dadän	'promise to someone'
31.	sefareš kärdän	'recommend to someone'
32.	šärh dädän	'recount'
33.	tähdid kärdän	'threaten'
34.	tähsin kärdän	'admire'

35.	täqaza kärdän	'ask someone'
36.	tärqib kärdan	'persuade'
37.	täsrih kärdän	'describe for someone'
38.	täšäkor kärdän	'thank'
39.	täšviq kärdän	'persuade'
40.	täväqo? daštän	'expect from someone'
41.	tojih kärdän	'explain to someone'
42.	tosiye kärdän	'give advice'
43.	vadar kärdän	'force'
44.	xäbär dadän	'notify'
45.	xaheš kärdän	'request from'
46.	xater-nešan saxtän	'point out'
47.	yad-aväri kärdän	'remind someone'

In addition, the complement clause frequently occurs with the following fixed expressions which usually consist of an impersonal verb.

1.	ance mosäläm äst	'so much is certain that'
2.	äz in häqiqät där nägozärim	'let us not forget'
3.	bädihi äst ke	'it is obvious that'
4.	där äxbar amäde	'it is said that'
5.	häqiqät hämin ke	'the truth of the matter is that'
6.	qärar bär in šod ke	'it was agreed that'
7.	qädre mosäläm an ke	'it is known that'
8.	šenide šode äst ke	'the rumor has it that'

APPENDIX II

The phonemic system of Persian consists of six vowels and twenty-four consonants. A description of the Persian segmental phonemes, only in enough detail to meet the need of the reader, is presented below.

Vowels:

1. /i/ is a high front unrounded vowel. Examples: in 'this', bid 'willow', and ki 'who'.
2. /e/ is a mid front unrounded vowel. Examples: emšäb 'tonight', gel 'mud', and saye 'shadow'.
3. /ä/ is a low centeral unrounded vowel. Examples: äre 'saw', där 'door', and nä 'no'.
4. /a/ is a low back rounded vowel. Examples: ab 'water', bad 'wind', and ma 'we'.
5. /o/ is a mid back rounded vowel. Examples: oräng 'throne', gol 'flower', and to 'you'.
6. /u/ is a high back rounded vowel. Examples: utu 'iron', gul 'fraud', and mu 'hair'.

The vowels /e/, /a/, and /o/ are shortened in unstressed positions. The vowels /i/, /a/, and /u/ are moderately lengthened before consonant clusters. Chart I presents a quick view of these vowels.

Chart I

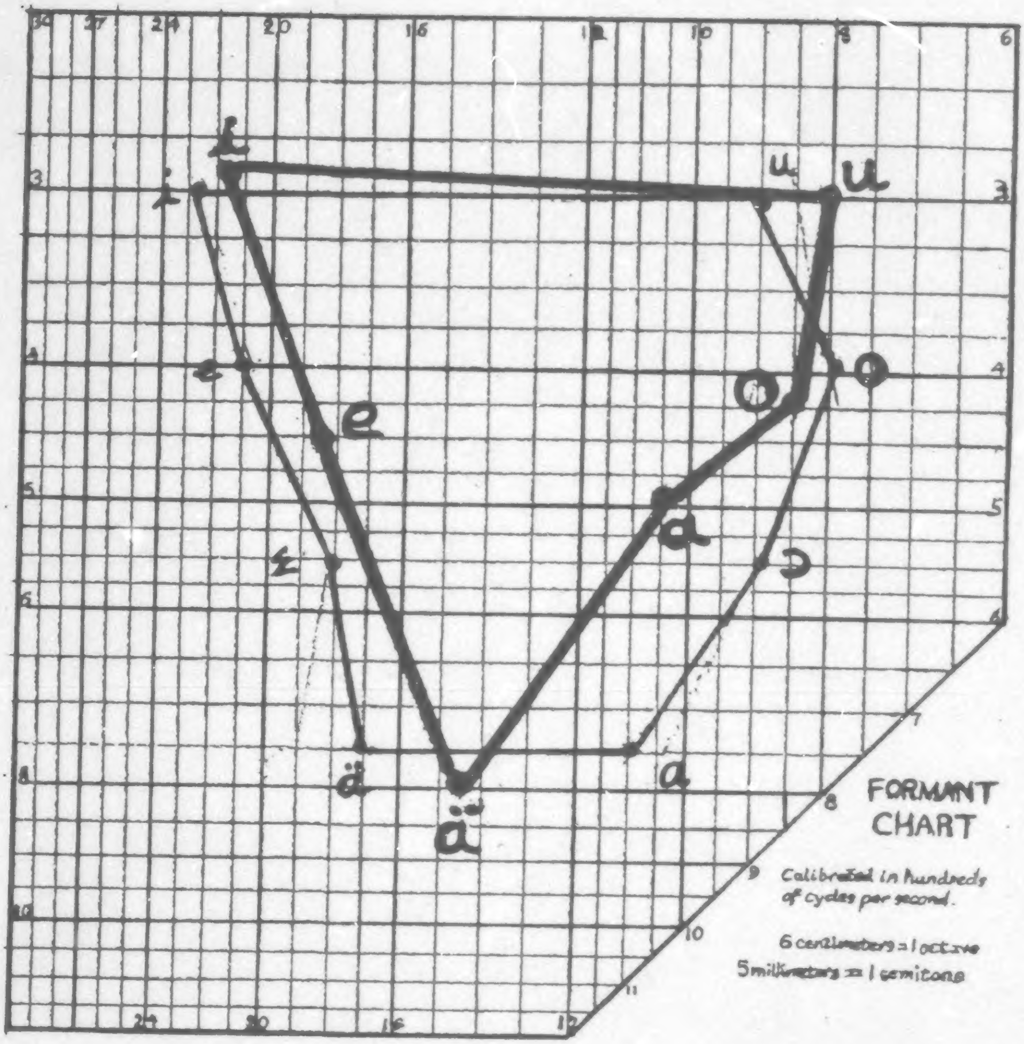
	Front	Center	Back
High	i		u
Mid	e		o
Low		ä	a
Unrounded			Rounded

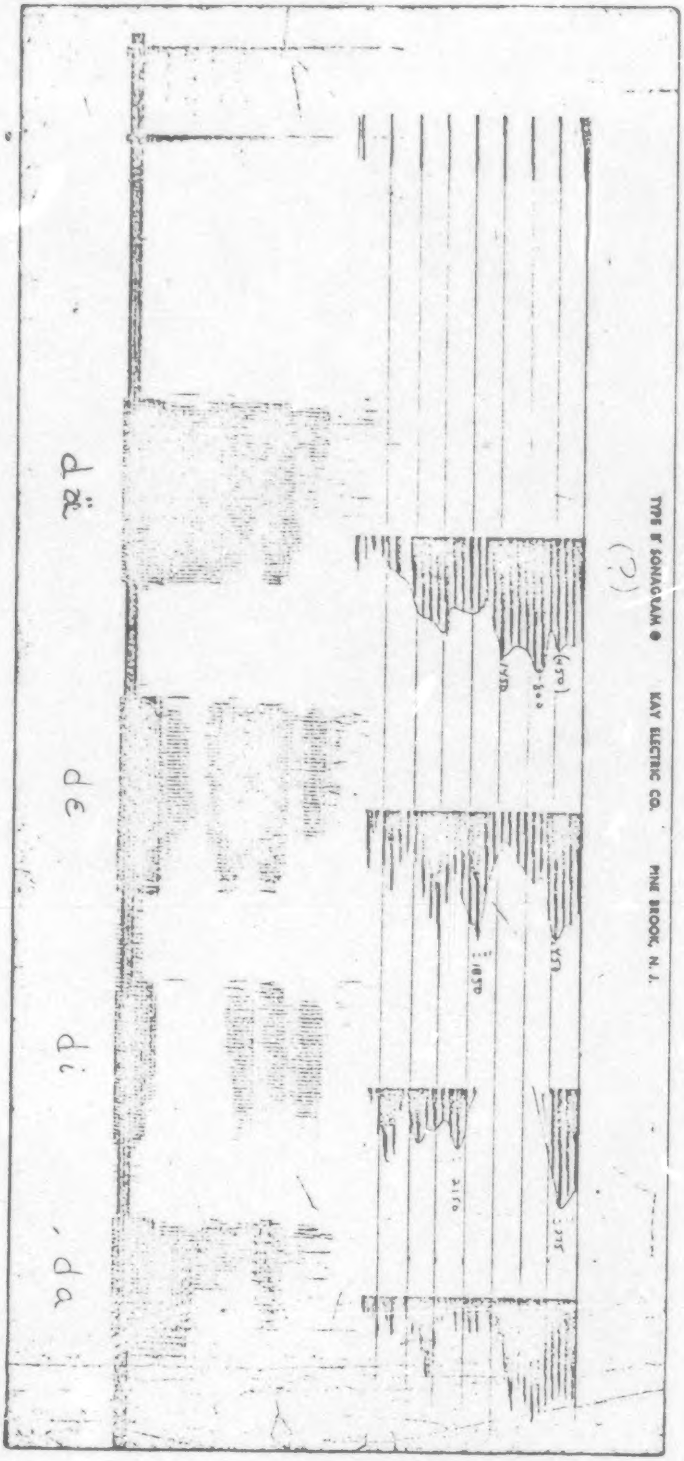
Chart II gives an acoustic impression of the six simple vowels in Persian and their corresponding vowels in English, by plotting the frequencies of the first and second formants of these vowels on a grid with the first formant frequency on the horizontal scale and the second formant frequency on the vertical scale. The formant frequency for the Persian vowels, drawn in heavy lines, is based on the accompanying spectrograms prepared at the University of Colorado Phonetic Laboratory, from my own recording. The formant frequency of English vowels, appearing in fine lines, is taken from Delattre's *Comparing the Phonetic Features of English, French, German and Spanish: An Interim Report* (1965:49).

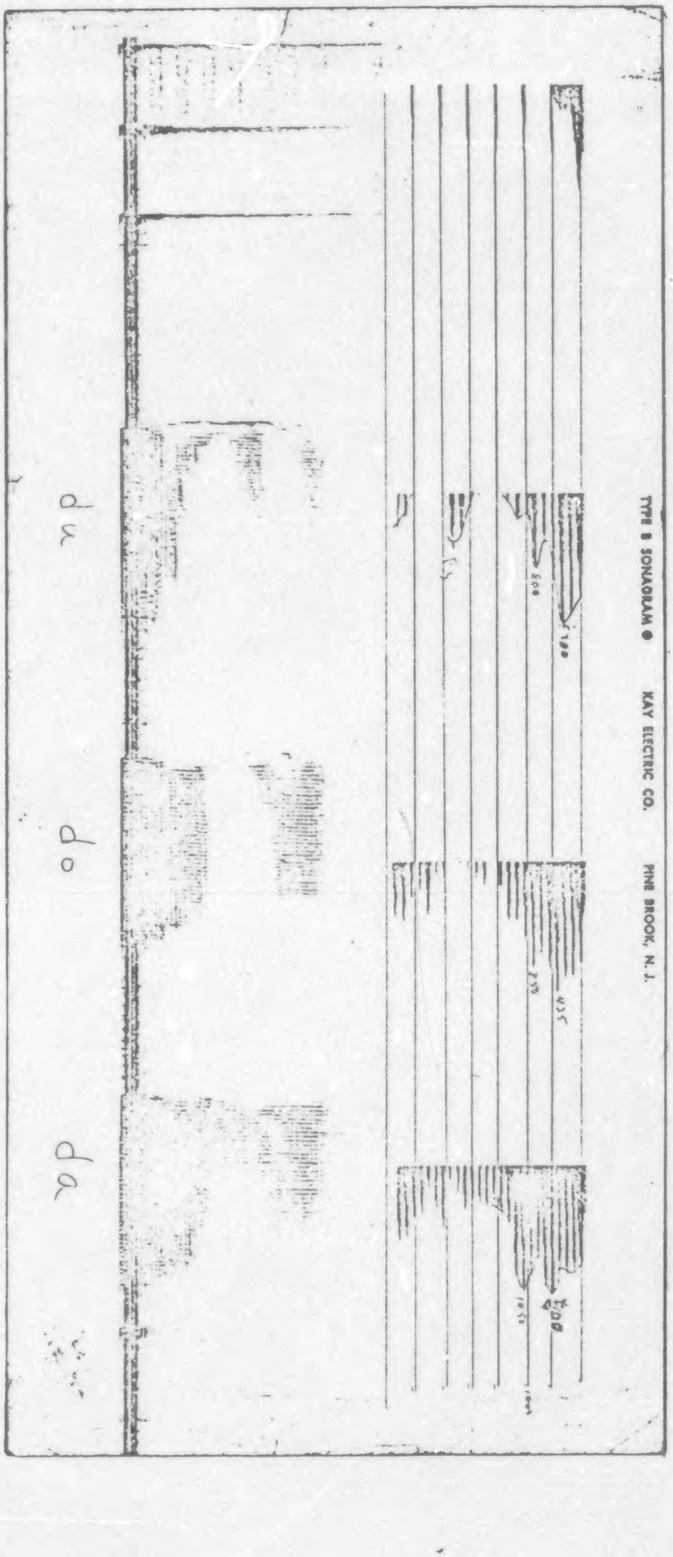
Consonants:

1. /p/ and /b/ are voiceless and voiced bilabial stops. Examples: *pir* 'old', *sepär* 'shield', *tup* 'ball', *bar* 'load', *abi* 'blue', and *šäb* 'night'.
2. /t/ and /d/ are voiceless and voiced alveolar stops. Examples: *tir* 'arrow', *ateš* 'fire', *bät* 'duck', *dir* 'late', *madär* 'mother', and *bäd* 'bad'.
3. /k/ and /g/ are voiceless and voiced pre-velar stops. Examples: *kur* 'blind', *šekar* 'hunting', *pak* 'clean', *gur* 'tomb', *ägär* 'if', *säg* 'dog'.
4. /c/ and /j/ are voiceless and voiced alveo-palatal affricates. Examples: *cah* 'well', *bäce* 'child', *pic* 'curve', *jah* 'rank', *ojaq* 'fireplace', *taj* 'crown'.
5. /f/ and /v/ are voiceless and voiced labio-dental fricatives. Examples: *farsi* 'Persian', *ofoq* 'horizon', *naf* 'navel', *vam* 'loan', *avaz* 'voice', and *nav* 'boat'.

CHART II


30
27
24
20
16
12
10
8
6
3
4
5
6
7
8
9
10
11
24
20
16
12
i
ɪ
e
e
ɛ
ɛ
ä
ä
a
a
ɔ
o
o
u
u
FORMANT CHART
Calibrated in hundreds of cycles per second.
6 centimeters = 1 octave
5 millimeters = 1 semitone


dæ
dɛ
di
da, da
TYPE B/ SONAGRAM ®
KAY ELECTRIC CO.
PINE BROOK, N. J.
(?)
(650)
800
1950
575
1850
2150
275


da
do
du
TYPE B SONAGRAM ●
KAY ELECTRIC CO.
PINE BROOK, N.J.
800
300
250
435
1050
800
1000

6. /s/ and /z/ are voiceless and voiced alveolar slit fricatives. Examples: *sär* 'head', *äsär* 'effect'. *das* 'sickle', *zär* 'gold', *azär* 'fire', and *raz* 'secret'.
7. /š/ and /ž/ are voiceless and voiced alveo-palatal fricatives. Examples: *šur* 'salty', *guše* 'corner', *aš* 'soup', *žale* 'dew', *može* 'eyelash', and *dež* 'fort'.
8. /x/ is a voiceless post-velar fricative. Examples: *xak* 'soil', *axor* 'manger', and *rox* 'cheek'.
9. /q/ has two allophones, a voiced post-velar stop [q] which occurs in word initial position and in medial clusters, and a voiced post-velar fricative [q] which occurs intervocalically. In word final position either allophone may occur. Examples: *qar* 'cave', *räqs* 'dance', *kaqäz* 'paper', *otaq* 'room', and *daq* 'hot'.
10. /m/ is a voiced bilabial nasal. Examples: *mu* 'hair', *name* 'letter', and *nam* 'name'.
11. /n/ is a voiced alveolar nasal. Examples: *nur* 'light', *änar* 'pomegranate', and *nan* 'bread'.
12. /r/ is a voiced alveolar trill. Examples: *rah* 'road', *bäre* 'lamb', and *mar* 'snake'.
13. /l/ is a voiced alveolar lateral. Examples: *läb* 'lip', *alu* 'plum', and *bal* 'wing'.
14. /h/ is a voiceless glottal fricative. Examples: *huš* 'intelligence', *bähar* 'spring', and *mah* 'moon'.
15. /?/ is a glottal stop. Examples: *?ädl* 'justice', *sä?id* 'fortunate', and *šäm?* 'candle'.

16. /w/ is a labio-velar semi-vowel with a restricted distribution and occurs only after the vowel /o/. Examples: *owj* 'zenith', *mowj* 'tide', and *jow* 'barley'.

17. /y/ is an alveo-palatal semi-vowel. Examples: *ya* 'or', *paye* 'pillar', and *mey* 'wine'.

This chart provides a quick picture of the consonants presented above.

Chart III

		bi-labial	labio-dental	alveolar	alveo-palatal	pre-velar	post-velar	glottal
Stops	vl.	p		t		k		?
	vd.	b		d		g	q	
Affri-cates	vl.				c			
	vd.				j			
Frica-tives	vl.		f	s	š		x	h
	vd.		v	z	ž			
Nasals		m		n				
Trills				r				
Laterals				l				
Semi-vowels		w			y			

LIST OF TRANSFORMATIONS

PAGES

1. Affix transformation. 60,150
2. Agreement transformation. 58,149
3. Appositive conjunct insertion 84
4. Attributive conjunct insertion. 84
5. Complementizer deletion 150
6. Conjunct collapsing 58
7. Coordinator change. 58
8. Coordinator placement 58
9. Copula deletion 103,124
10. Ezafe insertion 124
11. Ezafe particle addition 124
12. Gerund transformation 59
13. Identical constituent deletion. 59
14. Identical noun deletion 150
15. *ke* deletion 103,124
16. *ke* insertion. 84,123
17. Pronominalization 59,84,124
18. Pronoun deletion. 60,84,124,150
19. Quantifier deletion 60
20. Relative particle addition. 84
21. Subjunctive transformation. 60,150
22. *vä* deletion 61,84,123